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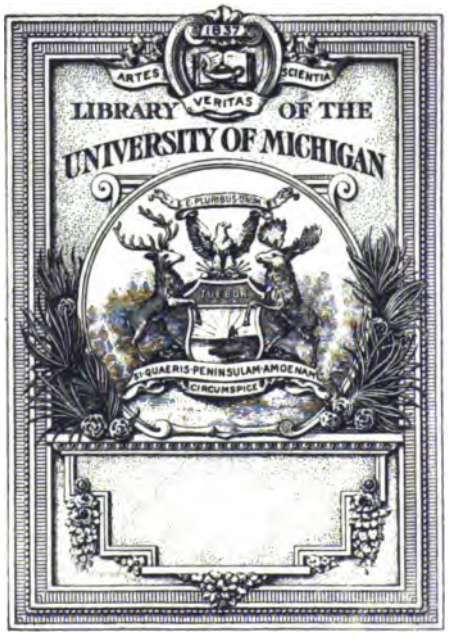
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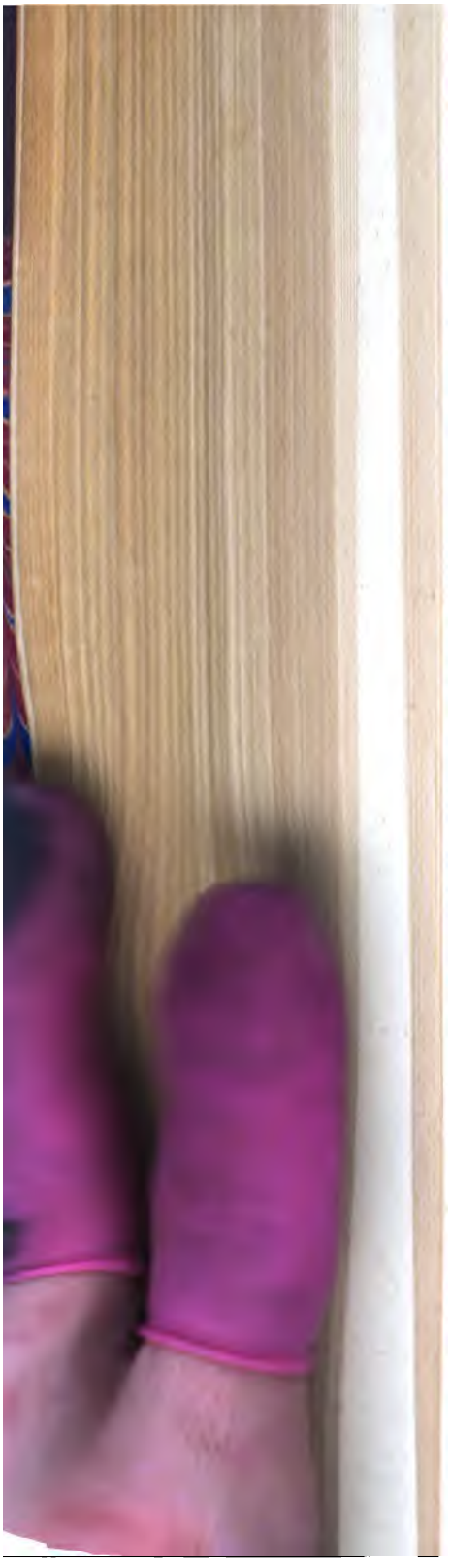

Dr. Roswell Park moved that the resolution
cerning the prize essay be continued. His mo
Following is the resolution:

Resolved, That the Chicago Medical Colleg
ation set aside the sum of $50 as a prize for
either one of the subjects to be selected by a co
Such essay must be of sufficient merit, preferei
original work and observation. Essays are to
secretary of the association before March 1, 1
by a sealed envelope containing some device or
the one on the manuscript. All competitors sh
and have paid the annual dues. Award will
Permanent Committee of Prizes—Drs. N. S
Johnson and E. O. F. Roler.

ADVANCING THE STANDARD.—There is no
that the standard of qualifications for graduati
schools of this city (New York), has materially
the past few years. The system of examinati
than at any time heretofore, and great pains ar
the graduation of unqualified persons. Written
the rule; the questions given are selected with
and a given standard is strictly enforced by a
faculty on the papers of each candidate.—MED
In these particulars, Chicago is not behind N

DEAFNESS IN SCHOOL CHILDREN.—At the
Commissioner of Education, Dr. Samuel Sexto
investigations regarding the prevalence of deafr
children, its causes and prevention. He exami
the public and parochial schools of New York C
six persons, or about thirteen per cent., there v
ished hearing in one or both ears. In only
deafness been suspected previously either by te
MED. REC.

Foreign Correspondence.

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EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINE

The question as to the value of iodoform in surgery (or r as to the dangers attending its use, for in regard to its good ities there is no essential difference of opinion) is still the ject of animated discussion. The deductions of König, commentary to his report of disastrous cases in recent nu of the *Centralblatt für Chirurgie*, have called forth ene protest from god-father Mosetig Moorhof. He says: "I never had a case of intoxication from iodoform, although I used iodoform dressings almost exclusively during the la years, in the treatment of some 3,000 in-patients and 4,000 out-patients." He explains this fortunate immun the facts, 1, that the iodoform is never used in large qu (70 grams is his maximum, I believe); 2, that it is nev in contact with the wounded surface *under pressure;* 3, dressing is changed only at long intervals; 4, that in cl the bandage the wound is never syringed out in order fresh iodoform, because, as is known, absorption proce rapidly in granulating than in fresh wounds; 5, bec iodoform is used alone, *i. e.*, without any other antisep lays great stress upon this latter measure, and denoun cially the (in Germany almost universal) combinatio bolic acid with iodoform. He refers to several cases of intoxication, in one of which the reporter (Höftm "The scanty urine, containing large quantities of car first showed the presence of iodoform on the third day, appearance of the carbolic acid." In another (König'

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Original Communications.

ARTICLE I.

A CASE OF FACIAL ERYSIPELAS IN A LYING-IN PATIENT WITHOUT PUERPERAL FEVER.

By NORMAN BRIDGE, M.D., Chicago.

The report of a case of "erysipelas in child-bed without puerperal peritonitis," at the recent meeting of the American Gynæcological Society, by Dr. Campbell, of Georgia, has led me to recall a similar case in my own practice, and to examine the notes taken at that time.

The patient was a woman of about forty years of age, who had been something of an invalid for several years; who was exceedingly nervous, irritable, dyspeptic and despondent. For weeks previous to confinement she suffered with various neuralgic pains, vomited most of the little food she ate, and thoroughly believed she would die in her confinement. Her last previous confinement, eight years before, had been a severe one; had resulted in an extensive laceration of the perineum, for the relief of which Prof. Peaslee had, a year before, made a successful operation.

Her confinement occurred in the night, was very rapid, and delivery was accomplished about half an hour before my arrival. I found the child dead, but it was said to have been alive at birth, and to have cried. It had not been removed from the mother. I delivered the placenta, and soon afterward left the patient in a comfortable condition.

At my call the next day, at eleven o'clock, the patient complained of a burning sensation on her nose; a small spot of erysipelas was noticeable on that part of the nose where facial erysipelas so often begins, and her pulse was found to be 84, and her temperature 102° F. She complained of headache.

The erysipelatous surface was painted with flexible collodion; hot, carbolized, vaginal injections were ordered, and sulphate of cinchonidia to be taken—two grains every two hours. At five P. M. the only changes noted were a rise of half a degree in the temperature, and a rapid spreading of the erysipelas. At one P. M. the next day the disease had covered both cheeks and under eyelids, upper lip, and the entire surface of the nose. The pharynx was inflamed, and the patient complained of soreness in swallowing. No change in temperature; pulse 80.

The next day (the third after confinement) the forehead, part of the scalp and ears had become involved in the inflammation. The tincture of iron was now ordered in small doses, but soon had to be abandoned, on account of the gastric irritability. Pulse 84; temperature 102¼.

On the following day at five P. M. the pulse was 90, and full, the temperature was 102 3-5° F., and there was now discovered, for the first time, slight tenderness over the region of the uterus. No tympanitis was present. The lochia, which till now had been free from bad odor, were slightly fetid. This symptom had disappeared by the next day, and the abdominal tenderness was nearly gone. The temperature had fallen to 102 1-5, and the pulse to 80. The erysipelas had ceased to spread, and was fading away upon the central portions of the face. Recovery now was rapid. There were no other unfavorable symptoms; the erysipelas recovered in the usual time and manner, and there was free exfoliation of the cuticle.

In ten days after the confinement the patient was ready to

begin to assume the sitting posture, as though no complication had occurred. The cinchonidia sulphate was taken quite regularly during the sickness, the vaginal douches were not omitted, and the face was daily painted with the flexible collodion.

There was no delirium at any time.

81 Throop St., Dec., 1881.

ARTICLE II.

A FURTHER VINDICATION OF LALLEMAND.

By GEO. H. PICARD, A.M., M.D., Topeka, Kansas.

Since the publication in the September number of THE JOURNAL AND EXAMINER of my paper, entitled "The Pathology of Involuntary Spermatic Fluxes," I have obtained a startling corroborative experience of the correctness of M. Lallemand's views on *diurnal seminal emissions*. It is the fashion among modern neurologists — who have developed a tendency to specialize spermatorhœa — either to ignore the manifestation of diurnal seminal losses occurring after defecation and micturition, or to ascribe their appearance to general plethora. According to Prof. Bartholow, they do not pathologically exist, and their presence is to be regarded as a physiological overflow. Prof. Austin Flint, Jr., less positively asserts that their reality is doubtful; and Prof. M. Rosenthal, even less radical, declines to discuss them.

These modern views of the neuro-spermatists—as I have already termed them—are not only an aggressive encroachment upon the rational theory of M. Lallemand and the Montpellier school, but are directly opposed to the well established theory and practice of the flower of British and Continental surgery. M. Lallemand, who instituted a series of cadaveric and clinical experimentation extending over a longer period and embracing a greater variety of cases than any subsequent observer, taught that diurnal involuntary spermatic fluxes were not uncommon sequences of prostatic irritation. Exactly how numerous these cases are, I am not prepared to affirm; suffice it to say, that within the last five years I have found a dozen of them, and I am satisfied that every one

of them depended upon a structural modification of the prostatic urethra. That my cases were genuine spermatorrhœa of this variety, and that the lesions were purely local, and not prodromes or sequences of any ataxic condition, I desire to illustrate by giving the history of two of the more recent of them:

I. An Englishman, aged thirty-three; light complexion; pronouncedly lymphatic temperament; weight 220 lbs.; six years married; wife healthy; no children; temperate, highly intelligent; general health perfect; *a suo confessione* a devoted masturbater from early youth until his marriage; remembers to have had only two nocturnal emissions with an erection during his life; first noticed a passive discharge after defecation about two years before his marriage; consulted an eminent neurologist, who, without a microscopical examination, pronounced it a case of "prostatic sexual inquietude" of no importance, and declined to treat it. It is but just to add, that the existence of the habit was not revealed on that occasion. Had never essayed sexual intercourse previous to marriage; was unsuccessful in his first attempts at coition, and supposed himself impotent; after repeated trials, he succeeded in establishing intercourse, which he pursued with the assiduity he had given his old habit. The fluxes after defecation did not disappear, always returning on the third continent day; in his own words, "leaving me the choice between coition and emission." Becoming somewhat more abstinent after three years, the frequency of the discharges began to diminish, so that for the past year he has been able to remain continent for eight days, at the expiration of which they invariably return. The flow is perfectly passive and without sensation; his virile force seems undiminished, although his sexual apparatus shows signs of weakness, the penis being flabby, the testes somewhat too soft and shrunken, etc. He does not complain of any abatement of his sexual capacity.

My first impression, upon hearing this history, was a decided skepticism as to the seminal character of the discharge, and my unbelief was strengthened by the robust and cleanly appearance of the patient. After having several times microscopically examined the secretion, I became convinced of the truth of the story, having at each time found a genuine article of seminal

fluid, containing an abundance of spermatozoa in full activity. After a most minute and diligent questioning, aided by the intelligent willingness of my patient, I learned that the fluxes were entirely passive, unaccompanied by the slightest sensation, and occurring at precisely the moment he arose from stool. He further stated that the flow was followed by no such feelings as are the sequences of coition—slight mental confusion, muscular relaxation, etc. Living for a considerable period *absque marito* made no perceptible improvement in matters. There was no existing constipation; no evidence of any former urethral lesion; no suspicion of stricture or blennorrhœa. I could not believe that the disorder was prodromatic of any ataxic trouble, both on account of its long continuance and the absence of anything like nervous debility in my patient. General plethora, as a causative factor, was excluded, from the fact that there was no continence. A somewhat curious feature of the case—and I believe I have noticed the same thing in all my cases—was the exact periodicity exhibited by the discharges, at first recurring after an interval of three continent days, the interval being lately increased to eight days. Concluding that the affection depended upon a chronic prostatic congestion, I injected, by means of the long-nozzled syringe, ʒ j of the tanno-glycerine, ʒ–ʒ, and enjoined perfect abstinence. After two weeks the flux returned. I then injected ʒ j of the strength of ʒ ij–ʒ j; there was considerable discomfort and bloody urine for a day or two, but the flow has not returned, a period of nearly two months having already elapsed.

I hope that no one will consider that in this case I have mistaken prostatorrhœa for seminal loss. Although there was coexistent prostatic hyper-secretion, the microscope made the situation very clear.

II. This case is very similar in its general features to the preceding one, the chief points of difference being the less robust appearance of the patient, his having had gonorrhœa and balanitis before his marriage, and his less complete history of masturbation. Like number one, he complained of no loss of sexual power, no nocturnal emissions and no beginning of nervous disorder. Having been subject for several years to passive seminal losses after defecation, and although eight years married, still

childless, he consulted me as to the probability of the seminal drain having affected his procreative power. The fluxes took place after a continence of four days. Believing a chronic prostatic hyperplasia to be the causative influence, I adopted a plan of treatment which I have since several times employed with the most satisfactory results, *the hot water irrigation of the urethra*. For this purpose I use a small-sized catheter having numerous lateral perforations and a bulbous tip, which will almost completely occlude the entrance to the bladder. To the catheter I attach a rubber tube, which is connected with an elevated vessel containing the water; the force of gravity does the rest, the water returning through the abundant space left in the urethra by the small catheter. I begin with the water at a temperature of 90° F., which I gradually increase to 115° or even 120° F. A daily sitting of ten or fifteen minutes will be found amply sufficient. Time and perseverance are necessary adjuncts to this treatment. I have found hot water to be decidedly more efficient in the treatment of chronic urethral congestion than the frigid hydro-therapeutics so highly recommended by the neurologists.

I am more than ever convinced of the truth of Lallemand's theory of *structural change*. I am delighted to see that the younger Gross, in his recent admirable work, has seen fit to check the engrossing ambition of the neurologists. The neuro-spermatists have furnished us a theory which is not justified by their practice, since they are compelled to rely altogether upon local measures. M. Trousseau adopted the rectum-pessary of a charlatan, and one of the most brilliant of living neurologists writes me "that for genuine passive spermatorrhœa, I know of nothing at all to be compared to the *porte caustique* of Lallemand."

I wish that morbid anatomists might continue the search for evidence of structural lesions in the urethræ of subjects known to have had spermatorrhœa: I cannot think they would be disappointed.

ARTICLE III.

COCCOBACTERIA IN PURULENT OTORRHŒA. A Paper read before the Elkhart County Medical Association, at their October Meeting, by C. A. LAMBERT, M.D., of Goshen, Ind.

MR. PRESIDENT AND GENTLEMEN OF THE SOCIETY: — I would like to call your attention to a subject of vital importance in the treatment of purulent otorrhœa, and point out what, in my estimation, is and has been the cause of so many failures in arresting the breaking down and loss of the delicate organisms of the ears affected with this oppressive and destructive disease.

The chief cause of this putrid decomposition has been generally overlooked. I allude to the microscopic coccobacteria present in the pus, and the therapeutical indications furnished by their presence.

I design, with your permission, at our next meeting in December, to present slips for microscopic exhibition, and continue my remarks on this same subject.

Coccobacteria septica belongs properly to the domain of general bacterio-pathology, and I need not speak of this in particular, but call your attention to the recent investigations by eminent scientists and patient investigators, who have perfectly demonstrated the presence of these microphytes in the fetid ear discharge, and given us the cue for more rational therapeutics in these cases. It, I hope, will be granted me to quote a few lines from Billroth and Löwenberg, as the very latest we have on this subject.

"Löwenberg has, since June, 1880, carefully subjected to examination the products of secretion of the affected ears of all the patients coming under his care, in order to enable him to study the nature of the respective microphytes. The examination consisted, on the one hand, in the microscopic study of the pus (with all its accompanying detritus), obtained by syringing or otherwise; on the other hand, in attempts at cultivation, partly in the above mentioned media, and partly in boiled neutralized urine."

The experiments were conducted with all the precautions necessary and indispensable in such cases. The experiments demonstrated that in all these cases we had to deal with the ordinary organisms of decomposition.

"*In all cases of otorrhœa where the cleansing is not done with the greatest care, and by the aid of suitable apparatus, the pus contains great numbers of micrococci. If, in consequence of persistent neglect, the secretion is allowed to become offensive, the micro-organisms swarm in incredible quantities.*

"In this connection, we can state with decided emphasis that, contrary to the belief in competent circles, the pus secreted in simple purulent otorrhœa, in its fresh state, is as little offensive as that from other diseased mucous membranes, simply on account of the absence of any cause therefor. Fetor, then, according to their present opinion, points to stagnation and a high degree of decomposition dependent thereon, the existence of which is proved by the presence of micrococci.

"The most abundant secretion or multiplication of micrococci is found in those cases that have been treated with emollients, particularly with cataplasms. These coccobacteria find all the aliments necessary to their growth and multiplication in the fetid ear discharges. If cataplasms increase the moisture and heat, and contribute additional organic material, we have an actual hot-house culture of bacteria.

"This condition explains the fact, well known to otologists, that, after the prolonged employment of cataplasms, almost interminable purulent processes in the ear often remain behind. Under this unintentional artificial cultivation, the putrefactive organisms reach a high degree of development, and in their turn keep up the prolonged suppuration. By a similar development and furtherance of micrococci, though of a special character, we may interpret the fact, that after continued application of poultices, outbreaks of furuncles may be incited in any part of the body."

Recognizing the presence of coccobacteria in nearly all these cases, and being satisfied of their presence, I will offer some observations from recent practice, and suggest a course of treatment that has been very satisfactory in my hands. All of us are

aware of the difficulty of treating properly these cases of perforation of the tympanum and chronic purulent catarrh of the middle ear, and I will reiterate by saying that the proper instruments are necessary: speculum, mirror, probes, syringes and absorbent cotton, etc., etc., and antiseptic remedies. The ear should be inspected every day, and carefully cleansed. I rely upon the syringe and absorbent cotton, and the appearance from day to day of the diseased parts is to dictate all the changes, if any, in the local treatment necessary.

I claim that no physician can treat successfully these cases as out-door cases. They must be surrounded with all care and circumspection; diet nutritious, and put, if necessary, upon alteratives and tonics, and cease entirely being exposed to the causes that originally produced the diseased condition; then we have a fair chance at the case. It may be a few days, or a few weeks, before we can get all the accumulations removed, so that when a remedy in liquid state is put into the meatus it can readily be forced through the middle ear and Eustachian tube. This is a *sine quâ non* in the successful management of even the simplest case. The time need not exceed, upon an average, more than from two to four weeks, even in the worst cases presenting. I cleanse the ear with a weak solution of carbolic acid, then gently mop out all the pus and detritus, and then resort to the Eustachian catheter, and find that the battle is fairly won when air can be made to pass through all the channels; then, and only then, are medications indicated. As to the particular ingredients of said washes, they are many; some say this is best, some that. I avoid nitrate of silver and sul. cupri almost entirely, and depend upon mild astringent solutions of sul. zinc, sul. morphia, alumen, and a trace of carbolic acid; fill the meatus full of this solution, and force it down through middle ear and Eustachian tube. I find that where the ear-drum is intact, and there is as yet no development behind it, acute otalgia can generally be relieved by very warm water, or warm solution of atropia sul., and that a timely operation for paracentesis of drum, when pus has accumulated, will hasten a cure and save the patient untold pain and suffering.

So the points I would make are—to use mild astringent reme-

dies, combined with antiseptics, such as carbolic acid, boracic acid, etc., etc,, thorough inspection of the parts, careful cleansing, and a special local treatment that has for its main object the destruction of these coccobacteria. One reason, in my mind, that bacteria are found in so many of these cases, is the fact that most cases applying are chronic ones, and have been accustomed for days at a time to plugging the meatus in order to get relief from the fetor, and protect their clothing.

In my next paper, I will call attention to the different bacteria, the micrococci zoōglœa, rod bacteria, spherical spirilli, and bacteria capitatum.

ARTICLE IV.

DOUBLE UTERUS (UTERUS BILOCULARIS), ATRESIA OF THE LEFT SIDE AND GONORRHŒAL AFFECTION OF THE RIGHT.

By O. STROINSKI, M.D.

Mrs. Bertha K., a German woman, thirty-two years of age, had been married two years to a healthy man, who acquired a gonorrhœal affection one year after the marriage. She was repeatedly infected, and after three months symptoms of a severe chronic parametritis appeared. She told me that she had menstruated the first time when fifteen years of age, and without any pains or other trouble. But at the time of the next menses she began to suffer from severe pains in the suprapubic and iliac regions, and there was no flow of blood. The pains increased to a considerable degree, a high fever set in, and the physician who was treating her at this time considered her state as very dangerous, calling the disease a peritonitis. Notwithstanding several repetitions of the same symptoms, the girl recovered, and began to menstruate regularly three months after her recovery; in all, six months after the first menstruation. The menses kept on regularly for the next five years, when the same symptoms reappeared. At this time she was examined by a physician, who called the disease a "retarded menstruation," and also thought her condition very dangerous. She refused an operation then proposed.

The next eight years passed without any further accident, the menses being very regular; but after this time the sickness reappeared twice in one year—the symptoms not being so severe as formerly.

After being infected for three months (*i. e.*, nine months before I saw her) a relapse of the same disease took place, and continued for two months. In examining her, she appeared a strong and well nourished, but pale and anæmic looking woman. The external genital organs were found to be in a normal condition, and also the vagina—the latter being only somewhat shorter than usual. In entering the vagina with the index finger, a normal cervix, with a virginal *os externum*, could be felt, drawn a little to the right side; but in pushing the finger upward to the fornix vaginæ, there was found, on the left side of the cervix, a rounded body resembling exactly another but smaller cervix, but without an opening (os). Between the normal cervix and this appendix there could be distinguished a line of demarcation which continued through the whole uterus up to the fundus. In bimanual palpation the same line could be felt through the abdominal walls, and on the upper part of the fundus there was an inlet into the same, dividing the uterus in two parts. The right side was normally constructed, respecting the metritical and parametritical condition of the same, representing a normal sized pear-shaped body; but the left side was twice the size of a normal uterus, and of a rounded globular-like shape, springing like the bulk of a new growth from the former. Through the vagina and the rectum the finger found the elongation of the normal cervix as a body like that of a normal uterus, but on the left side there was a thickening of the walls and an enlargement of the uterus, beginning right behind the cervix.

By manual pressure, the walls of this side of the uterus could be compressed like a bag filled with water, but the woman fainted by this manipulation. The speculum showed the endometrium in a state of inflammation, and the os discharging a greenish-white fluid (gonorrhœal). The parametrium was very painful by touching it, and I did not introduce the sound on account of this condition. There was in this case, doubtless, a complication of three different diseases which I had to consider: *i. e.*, first, a

cases: gonorrhœal infection; second, a chronic parametritis; third, an occluded uterus filled with a fluid. After three months' treatment the gonorrhœa was banished entirely and the parametritis—the latter being treated by energetic painting of the posterior vaginal wall. The parts were in such a condition that I thought it advisable to open the occluded uterus. I introduced a trocar of the smallest size through the occluding membrane, which, by the way, was half an inch thick, and a dark-colored fluid, of a smell like thickened ox-gall, began to dribble away from the new os externum. I did not enlarge the small opening, but kept it in the same condition for two weeks, introducing a small bougie once or twice a day, and preventing an infection of the vagina by washing out the same three times a day with a solution of chloride of zinc. The reason for being so slow in emptying the uterus was, first, the enlarged condition of the Fallopian tube, palpable through the abdominal walls; second, the irritated state of the peritoneum, which had been inflamed so often, and which was always sensitive to the touch. In six weeks' time the uterus contracted to about the normal size, and I washed out the cavity with a strong solution of carbolic acid, the opening of the Fallopian tubes being also contracted. The sound now entered both sides of the uterus, a thick layer of (fibrous) tissue dividing the latter, and each side having the same function as the other, *i. e.*, separating the menstrual flow alternately.

The question, how was the menstrual blood in the uterus absorbed in the former menstruations?—for this must have been the case—seems to me pointed out by the irritative condition of the peritoneum covering the uterus, and I am convinced that the blood accumulated in the uterus was transuded through the walls and absorbed by the peritoneum, the process being very slow, and having been performed at several irregular intervals.

Article V.

Diphtheria and Treatment. By Z. T. Magill, M.D., Lincoln, Mo.

There has been much written and said about the above subject, yet the formidable ravages of the disease are still sweeping over our

land at a frightful velocity. We go to the bedside of the little sufferer and follow carefully the treatment laid down in our best text books, yet how often, to our chagrin and dismay, the avenue of life is gradually clogged and the scene is ended. The question naturally arises, "Why do we allow so many children in the glow of beauty and health to succumb in from twenty-four to thirty hours from this fell destroyer." One reason is, the foe is upon its prey by the time we have resorted to our armamentarium: then a hand-to-hand battle ensues between life and death. We have no time to wait for the removal and prevention of ferment or spores in the fluids of the body by drugs *per orem*. In many cases, upon our first examination, the fauces, larynx and trachea are covered with a fibrinous exudation in the form of a false membrane. We must remove it (not by force), and prevent the re-formation. Many times it is beyond the reach of local applications with probang and gargles. Then the only direct resort is by inhalation. Relief is often given from slaking lime. Yet it has not been a success in my hands. Of late, carbolic acid is the sheet-anchor with me in the treatment. Having provided myself with an ordinary hose, from three to five feet long, and perhaps an inch in diameter, I place one end over the spout of a common tea-kettle, in which I place half a gallon of water and half an ounce of carbolic acid; then set the tea-kettle on the stove over a good fire, and when the water is at boiling point carry the other end of the hose under a blanket thrown over the patient's head and steam. The room should be closed. In a short time the patient will perspire freely, the sweat glands acting as a powerful emunctory and thereby eliminating the virus of the disease from the blood. If persevered in at short intervals, breathing becomes softer, and presently, after a succession of quick expulsive efforts, the patient throws off a coat or tube of false membrane. The acid vapor seems to prevent the re-formation of exudation. Whether it is owing to its local influence altogether on the mucous membrane, or to its action on the blood circulating through the lungs and the elimination of the virus by the functions of skin, I am not able to determine; probably by the combined influence. As the danger in many cases is chiefly from asthenia, I give alcoholic stimulants just short of alcoholism, and sulph. quinine in liberal doses; also good, nutritious diet.

Clinical Reports.

ARTICLE VI.

A CASE OF MALARIAL KERATITIS. By E. J. GARDINER, M.D. Assistant Surgeon to the Illinois Charitable Eye and Ear Infirmary.

In the December number of this journal, my friend, Dr. Hotz, published a paper in which this form of keratitis is so truly described that I consider it superfluous to enter into any general description of the disease in this report. My object in publishing this case is to contribute as much as possible to the knowledge of this form of eye disease, of which thus far so little has been written, and indeed of which, until quite recently, so little has been known. I consider the case a very interesting one, because the patient, having been under my care during the whole course of the trouble, I was enabled to watch the progress of the disease from the very first symptoms.

Mrs. S., age 42, of rather delicate constitution, had been under my care for about a fortnight for a bad case of Blepharitis Ciliaris Ulcerosa. I had succeeded in removing the scabs from her lids, and the ulcers which extended along the whole border of both her upper and lower lids, were very nearly cured. I missed her from my office for a couple of days, and when, on the third day, she returned, she informed me that, on the evening of the last day I had seen her, she was suddenly taken with a chill, which was followed by high fever. Having passed a very restless night, she remained in bed the next day. After I had treated her lids she asked me to examine her eye, because something had got into it on her way to my office. I examined the cornea very carefully, with focal illumination, but *nothing*

could be seen. A small foreign body was found in the cul-de-sac of the lower lid. The following day she appeared at my office with her eye bandaged, and stated that in the afternoon of the previous day she had been seized with a most violent pain in her right eye; the pain increased toward night, and had not ceased for a moment. When I opened the lids, I found considerable pericorneal injectoin, very intense photophobia, and very profuse lachrymation. On the upper and outer quadrant of the cornea I detected a little grayish vesicle, from which started a little line of grayish infiltration, which extended outward and a little upward, and ended at the periphery of the cornea. Thinking it to be a case of common phlyctenular keratitis, I prescribed a solution of atropine (gr. ij. to ℥ of water)—and dusted a little calomel into the eye. The patient returned the next day, stating that the medicine had given her no relief. The pain was even more severe. On examination I found that the pericorneal injection had increased, and the photophobia was so intense that moderate light could not be borne. With a good deal of trouble, and not a little persuasion, I at last succeeded in examining the eye with focal illumination. I was well repaid for my pains, for the following interesting condition was revealed: The vesicle and line of infiltration I had seen the previous day had disappeared, leaving in their place a linear abrasion and a little ulcer; from the latter started two little bands of infiltration, one of which travelled directly inward for about a millimeter and terminated in a little vesicle; the other, which also led to a little vesicle, travelled downward and inward, and was also about a millimeter long. The form of the whole thing resembled that of a ⊨, placed in the horizontal direction. Of course there was then no room for doubt. The case was one of malarial keratitis. I prescribed sulphate of quinine—the atropine to be continued. Two days later I saw Mrs. S. She stated that the pain had subsided after the second dose of quinine. The pericorneal injection had considerably decreased, and the eye bore light very well. With focal illumination I found that two little lines of infiltration had started from the two little vesicles (now changed into ulcers), but they appeared as if the process had been cut short by the treatment, because not only were they much shorter than the other lines, but they

did not terminate in vesicles as the former ones had done. The abrasion, which extended from the periphery of the cornea to the first ulcer, had filled up, leaving a line of opaque tissue in its place. The healing process continued steadily from this time on, travelling always from the periphery toward the centre. After two weeks nothing but a diffuse opacity was visible, and after two months this also had disappeared.

IODOFORM IN THE TREATMENT OF DISEASES OF THE SKIN.—Mr. Frazer has obtained very favorable results from the use of iodoform in various diseases of the skin. It may be readily employed in the form of an ointment of any required strength, mixed either with lard or vaseline. The strength of the ointment made use of has ranged usually from ten to thirty grains of iodoform to the ounce of cerate, but double this quantity can be applied. It has proved a most useful remedy in healing local eczematous eruptions occurring in strumous children and young people, as well as in cases of impetigo. Mr. Frazer also directs attention to the properties it possesses in curing porrigo decalvans. The best results he has as yet attained have followed the application of vesicating collodion over the affected spot and for a short distance around it. Previous to this it is well to epilate all diseased hairs over the spot, and when the blister is healing the ointment of iodoform should be applied night and morning, or oftener; by this treatment the hair soon reappears in a healthy condition.—*British Medical Journal.*

Foreign Correspondence.

ARTICLE VII.

LONDON, Dec. 3, 1881.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER: — Each of the fourteen general hospitals has of this city has its "out-patient" department; a dispensary in fact. The attendance is enormous, and divided into sections according to the nature of their ailments, these paticnts furnishing abundant facilities for medical instruction. Every department of therapeutics is represented at each hospital by a specialist, and here is laid the foundation for that broad knowledge of and practical acquaintance with the entire range of medicine and surgery which distinguishes the young English graduate. Every student serves as dresser or assistant in each of the various departments; with the surgeon he has opportunities for dressing, with the gynæcologist, for using the speculum, with the ophthalmic surgeon for employing the ophthalmoscope, and so on throughout the whole list. Certificates of such service are required before the student is admitted to the privileges of study in the wards. Here he becomes clinical clerk to a physician or dresser to a surgeon, and thus comes into intimate contact with the severe cases, medical and surgical.

In his four years of study, therefore, he has—he is *compelled* to have — vast opportunities, probably unequalled outside of English schools, for immediate and practical observation of disease. These advantages can be realized when one reads that the privileges of the London Hospital, containing 800 beds, where were treated, during 1879, 6,361 in-patients and 47,998 out-patients (excluding 22,737 cases of diarrhœa), are divided among about one hundred students. The student revels, in fact, in a luxury

of disease; but there is, unfortunately, one signal defect in the system, which vitiates the whole—the lack of instruction. I do not refer to didactic lectures, which in these days of good text-books can only exceptionally be regarded, except by a stretch of courtesy, as instruction; the London student is lectured enough, but he receives very little personal instruction in the examination of patients, in the use of the various means of diagnosis which the physician must employ. He may watch his teachers in their examinations; he is at liberty to examine patients himself; but he is not supervised, questioned, corrected, directed as he might and should be. Hence it is that at the end of his four years' work, after examining hundreds of cases, he is often unable to distinguish the crepitant râle of pneumonia from the sonorous râle of asthma; he regards as a granular cast a harmless collection of amorphous urates; he considers an opacity of the lens as a retinal hæmorrhage. These are not fancy pictures, but instances of mistakes "taken from life." Yet so far as he can learn by observation and practice, without individual teaching, the London student is a model, and he is probably, on the whole, the best-informed man, for his years, in practical medicine and surgery, that I have as yet observed.

After securing his license to practice, or becoming "qualified," in local parlance, from the College of Physicians, or from that of Surgeons, or from any other of the nineteen corporations empowered to confer degrees in Great Britain, several professional paths are open to the youthful Esculapian, whose destructive tendencies are indicated not by a simple "M.D.," as is the case in every other civilized country, but by M.R.C.S., or L.R.C.P., or some equally imposing literary array. (I have counted no less than fifteen such capitals in procession after one name). He may become a general practitioner, or a consulting physician or surgeon. In the former case he displays, not simply a "shingle," but also a very suggestive, sanguinary looking red glass case, enclosing a gas jet, whose lurid glare notifies the world that a "Surgeon, etc." is domiciled there. I was at first curious to know the significance of that "etc.," until I one day noticed that one man unblushingly labeled himself "Surgeon and Accoucheur." It then dawned upon me that the "etc." was a

euphemism, employed out of deference to the well-known delicacy (sic) of the British public. This "surgeon, etc." treats everything that falls into his net, receiving fees as low as a shilling, dispenses his own medicine, and sends for a "consultant" in any doubtful case. If he be very successful, he may in the course of time abandon general practice and become a consulting physician—the exception, however.

The true "consultant" has never sullied his reputation with general practice. After receiving his degree he becomes house-surgeon or physician somewhere; subsequently, if very "swell," he spends a few months "abroad, you know, aw;" then he opens a "consulting-room," usually in the East End; his consultations during the first few years being chiefly with his laundress and boon companions. Meanwhile he secures one of the numerous subordinate posts at a hospital, with a small salary—eighty to one hundred pounds—attached—as assistant demonstrator of anatomy, or clinical assistant, or registrar. With this income and his private resources he maintains his consulting-room and a supply of silk hats—both absolutely essential to professional dignity—and spends his spare time in study at special hospitals, and in reading for his fellowship examination. After a longer or shorter period he gets an appointment as assistant physician or surgeon, picks up two or three other appointments at various hospitals, and if he can subsist five or ten years longer, begins to get some private (consultation) practice. In another ten years he moves to the West End, procures a carriage and pair, with liveried coachman, and is a great man. I am acquainted with a gentleman who is assistant surgeon to a large general hospital, surgeon to an eye hospital, a skin hospital and a children's hospital; he has an elegant suite of rooms, and hopes some day to have a practice. In this way the Jonathan Hutchinsons are made—by devoting the first few (sometimes many) years of professional life to hospital work exclusively, renouncing all pecuniary considerations for the sake of a vast clinical experience.

At the various special hospitals, sixty-six in number (returns of new hospitals for last week not yet received), one sees enormous numbers of patients—each physician usually seeing from 125 to 250 during the afternoon. These "hospitals" are in

fact but little more than dispensaries, since they have in many cases only ten to thirty beds each; the buildings are usually dwelling-houses, quite devoid of the necessary sanitary appointments. Many have originated in a "want long felt" by certain medical men, of opportunities for studying disease, opportunities which they were unable to obtain at regular hospitals. As a natural consequence, there has arisen a shameless abuse of "charity" by people abundantly able to pay for professional advice. In fact, the competition for patients is not limited to the small hospitals; a few days ago there appeared in one of the leading dailies a letter from a "grateful patient," extolling the care and skillful treatment which she had received at a certain large general hospital, and advising people who needed attendance to patronize that institution, "especially if they were able to pay eight shillings a day." A writer in a medical journal, commenting thereon, prophesies the appearance at no distant date of placards on the omnibuses and walls—"Try St. Thomas' Hospital; bones skillfully set; operation bloodless and painless; only eight shillings per day." "Go to Guy's Hospital for Mary Jane's champion poultices—two shillings," etc. There appear at intervals in the daily press articles from medical men urging the necessity for reforming and regulating the numerous medical charities of the city, but no one seems disposed to initiate the movement.

Medical practice in London presents few novel features, aside from its extreme conservatism. The surgeons use for fractures of the leg the wooden box with bran bags, and starch or gum bandages; for fractures of the thigh a weight and pulley and perineal band; they reduce downward dislocations of the shoulder by means of the heel in the axilla. They are adopting the Vienna treatment of ulcers, burns, fungous joint surfaces, etc., by iodoform in powder or solution. Mr. Lister and some others cover ulcers with iodoform, lay over this a piece of "protective," and cover this again with boracic lint—*i. e.*, lint which has been dipped in a saturated solution of boracic acid, crystals of which are deposited on the lint in drying. Another Vienna notion, Leiter's leaden tubes for conducting water of a constant temperature over an inflamed part, have also been introduced.

The physicians are remarkable, first, for their faith in reme-

dies, and second, for the minuteness of detail with which they examine patients. They are not content with the stethoscope, thermometer and test tube; they examine the eye, including the fundus; the mouth and larynx: palpate the abdomen; hammer out the knee-jerks and all the other jerks; estimate the quantity of urea; count the blood-corpuscles; note patient's weight; test his sensation, general and special; secure tracings with the sphygmograph and cardiograph—not, of course, in every case, but certainly upon slight provocation. Nor is that all. Dr. Sansom, instigated by a Frenchman during the late Congress, undertakes to mark out by percussion the walls of the various cavities and the position of the several valves in the heart. He employs a pleximeter of ebonite, a simple cylinder with the diameter of a thin lead-pencil some two inches long, solid, with a flange surrounding either end, the upper one, for the percussing finger, about $\frac{5}{8}$, the other $\frac{3}{8}$ inch in diameter.

Mr. Spencer Wells recently removed a pregnant (six months) uterus, with the ovaries, for epithelioma of the cervix—the first case on record. Patient recovered from the operation—whether from the disease or not remains to be seen. Billroth performed (but did not record) a similar operation several months ago. His patient recovered also, but soon died from recurrence of the disease. Mr. Wells, in presenting a report of the case to the Medico Chirurgical Society, expressed his belief that radical measures were usually necessary in cancer of the cervix; that destruction of tissue by knife and caustic, after Marion Sims, rarely offered a probability of success.

Mr. Reeves has been discussing the relative merits of gastrostomy and œsophagostomy in stricture of œsophagus (particularly cancerous) not dilatable. He urges the opening of the œsophagus, unless stricture is very low, as more practicable and less dangerous. Unfortunately, his opinion does not, as yet, rest upon clinical experience, and is not very warmly endorsed by his brother surgeons. His operation for genu valgum, however, by chiselling away the condyle, and opening the joint, is recommended by several surgeons of experience.

Mr. Lister and his colleagues have been for some time treating transverse fractures of the patella by cutting down upon the bone

and passing silver wires through holes bored through the separate fragments, the ends of the wires being then twisted together so as to hold the fractured surfaces in close apposition. It was claimed that the operation was (under the spray, of course) without danger, and secured the firmest possible union. I say *was* claimed; for since, in one instance, the knee-joint suppurated, we have heard less of the immunity of the operation.

At Moorfields Eye Hospital, the rage just now is "retinoscopy." With the mirror (about 9-in. focus) held forty-eight inches in front of the eye, light is thrown in at the usual angle; the mirror is then rotated on its vertical axis; if a shadow encroach on the illuminated pupil on the same side as the advancing edge of the mirror, the eye is myopic more than one diopter; if shadow appears on the opposite side, the eye is hypermetropic, emmetropic or myopic less than one diopter. Further examination reveals details which I won't inflict upon you; the method is certainly convenient and efficient for detecting certain anomalies of refraction, though it furnishes no information which can not be acquired by the usual methods.

The Listerian precautions are by no means universally practised here. In King's College Hospital, it is true, all the general surgeons follow the example of their chief; in St. Bartholomew's, on the other hand, better results are obtained by the "septic" method. In the Samaritan Hospital for Women, Mr. Thornton performs an ovariotomy one day with all the paraphernalia so fatal to bacteria; the next day Dr. Bantock makes an ovariotomy with scarcely a "smell" of carbolic acid. Between the two extremes may be observed several grades of caution; some omit the spray; others use it as a matter of form, and if at the end of the operation it is discovered that the carbolic acid bottle is empty, and that the spray has been simply steam, or if the perverse machine suddenly stops in the midst of the performance, and obstinately refuses to go, nobody feels very bad about it; it's a "good joke on Lister"—nothing more. The bacterial hallucination sometimes presents amusing phases. Not long ago a rigid apostle of Listerism made an amputation at the hip. The dressing was applied over the same regions as the gauze of a ballet-dancer. Whenever the patient desired to evacuate his

bladder (fortunately it was a "he") the house-surgeon or dresser was summoned; the spray was directed so as to shower the patient's torrid zone; the dressing was carefully loosened, the necessary organ was fished up out of the depths and directed over a vessel, and then the gentle gurgle of the escaping renal secretion mingled sweetly with the murmured admiration of the bystanders, the fizz of the faithful spray, and (presumably) the teeth-gnashing of baffled bacteria. Needless to say that the patient died.

W. T. BELFIELD.

CAPSICUM ANNUUM IN METRORRHAGIA.—M. Cheron in the *Revue Med. Chir. des Mal. des Femmes*, recommends strongly cayenne pepper in all forms of uterine hæmorrhage, whether due to fibroid tumors or to fungous endometritis, or even to epithelioma. He was first led to essay this remedy by the good effects observed from its use in hæmorrhoids. A large number of physiological experiments led him to consider it as having a special action on the vascular system, and hence on organs very rich in blood vessels, such as the utero-ovarian system, the organs of respiration and the brain.

Cayenne pepper acts like ergot on the non-striated muscular fibers of the vessels, either directly or through the vasomotor system, and it has the great advantage over ergot that it is well supported by the stomach, acting as a stimulant to its functions. The medicament can be given in pill form, two grains before each meal, increasing to four grains, or the watery extract in the same dose, or in tincture, much diluted and given more frequently.—*Med. and Surg. Reporter.*

Domestic Correspondence.

ARTICLE VIII.

NEW YORK LETTER.

EDITORS OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER. —New York is not falling away at all in the activity among its medical societies. A new one has recently been organized under the title of the Materia Medica Society. It will devote itself to the subject of drugs and therapeutics. The gentlemen who have been most energetic in getting it up are wide-awake and competent persons. Some of them, such as Dr. Piffard and Dr. Castle, have paid more than ordinary attention to therapeutics. The former has some peculiar views, which, if not homœopathic, are rather heretical. We have a Therapeutical Society in the city, and it would seem rather unnecessary to have another whose objects must be very nearly alike. It is said, however, that the Therapeutical Society, though it has done some good work, is now moribund, or at least very inactive.

At a meeting of the Medico-Legal Society some time ago, Dr. T. D. Crothers read a paper on Trance-States in Inebriates. The speaker contributed a large amount of valuable clinical matter to the subject of inebriety. This he considers as unquestionably a disease. During it, there not very rarely occur conditions of blanks in memory and consciousness. He terms these trance-states. The patients act then like automata and do things for which they are not at all responsible. Hence the medico-legal interest. The state described is a very curious and interesting one. The society met again last week. Dr. Johnson, of Brooklyn, read a paper on the Medico-legal Relations of Anæsthetics. One of the most interesting points brought out was whether it is

justifiable to give an alleged criminal an anæsthetic in order to make him confess. Of course, the opinion was given that this should not be done, on the legal ground that we have no right to make a man criminate himself. As physicians, the question of most interest is whether such a process as chloroforming could bring out any confession that would be of real value. There is yet no evidence that any testimony, in itself trustworthy, could be elicited in such a way. The discussion on the paper was postponed, however, in order that the Society might elect officers and have a supper. There was a dead-lock when it came to the election of President,—but nothing interfered with the supper. Indeed the novelty of mental harmony and abundant diet seemed so pleasing that one enthusiastic member moved that the annual supper be held every month. This was acceded to in so far as to vote for another supper at the next monthly meeting. The Medico-Legal Society is a kind of hodge-podge of good and bad material; of doctors who want to be experts, and lawyers who want to talk. It has in it, however, some most excellent men in both professions. It has also a large membership, an excellent library, and it publishes a regular bulletin of its proceedings. There has been a lack of harmony and rather a falling back in its work of late. Dr. Hammond withdrew last spring because he thought himself unfairly treated when he presented the subject of mesmerism at that time—and there were some other disaffections. The coming election of officers is expected to restore peace and prosperity.

At a meeting of the New York Academy of Medicine, recently, Dr. Taylor read a long paper on the subject of reflex disturbances of the sexual organs in women. The gist of the paper was to the effect that unmarried women are sometimes subject to very severe constitutional disturbances, due to the fact that the sexual function is not employed. Furthermore, such women may suffer and be chronic invalids from this cause without at all knowing what is the matter. The clinical facts cited in proof of this statement were somewhat startling, when taken alone, as they went to show that the sexual feeling in woman is very powerful, and that the inability to gratify it is sometimes attended with very serious consequences. Dr. Taylor said, however, that there

was a remedy for the threatened danger. This remedy lay in active and regular physical exercise, and in a systematic employment of the mind. The discussion at the close of the paper was much more personal than scientific, and in no way added to the interest of the meeting. Dr. Fordyce Barker referred to the fact that the subject was a delicate one, but he thought it ought to be carefully discussed. Dr. Lewis Sayre then rose, and in his most vigorous style denounced the character of the paper, and said that he did not think the facts given ought to go out endorsed by the Academy. The reader of the paper had virtually intimated that single women are in danger of losing their health if the sexual function were not employed. If medical men endorsed such a view, and it should get abroad, what an incentive to, or excuse for, immorality would be given. It was said, in reply to this, that Dr. Taylor had only stated that in rare cases women might suffer from the cause mentioned. If this were so, the fact should be known to medical men and taken into account by them. The preventive measures of regular bodily and mental exercise could be employed.

You are aware, probably, that Dr. Wm. J. Morton, of this city, has purchased the *Journal of Mental and Nervous Diseases*, heretofore edited so ably by Dr. Jewell, of your city. Dr. Morton will now assume the sole editorship of it.

The proposed new weekly medical journal to be started in opposition to the *Record* is not to be published,—at least this is the latest report. Not enough money could be raised for it. In part, perhaps, to supply its place, Dr. I. M. Hayes is to make his monthly *News and Abstract* a weekly journal. He has visited the city here and secured some persons who will furnish him with the society news here. Some of those who were to have been connected with the proposed New York weekly will now work for the new Philadelphia journal. Philadelphia has already three excellent medical periodicals, all standing well. It is not easy to see that there is room for another.

The number of students in the colleges here this winter is perhaps somewhat smaller than it was a year ago, but the difference is not great. Bellevue, which lost a good many students by its attempts to have a three-years course, has gained

somewhat in numbers the present year. The College of Physicians and Surgeons fully holds its own under its changes. Considerable talk was made about the retirement of Dr. Thomas from the chair of obstetrics. This amounts to nothing, since he has not lectured on obstetrics for several years—Dr. McLean, his associate, doing all this. Dr. Thomas gave a series of didactic and clinical lectures on gynæcology. These were very popular, but chiefly so with students. Dr. T. is a very attractive speaker, and puts things in a very clear and telling manner. It is some time before one appreciates that he is telling you very elementary things.

There are a number of what might be called private clinics given in the city during the present winter. They are generally free, and are intended for the instruction of graduates rather than students. They are well attended, and are very useful. The lecturer is paid of course in the additional reputation and consultation practice that he gets. Dr. L. D. Bulkley gives a popular course on skin diseases at the New York Hospital. Dr. N. M. Shaffer also gives a very well-attended orthopœdic clinic at the New York Orthopœdic Hospital. This gentleman has shown himself to be an original and industrious worker. In a monograph on the hysterical element in orthopœdic surgery, published a couple of years ago, he added some very useful observations to the meagre literature of joint-neuroses, and his present lecture has laid down one rule with great emphasis. It is that the muscular spasm by which diseased joints are made more or less rigid is pathognomonic of an osteitis. It may be tested in the hip, for example, by strongly flexing the leg and thigh, then holding the pelvis firmly with one hand, and with the other rotating the thigh outwards, or gently flexing and extending it. There will be a spring-like resistance to any such attempts at movement, which is very characteristic. If a further test is required the patient is to be laid flat on the stomach. The pelvis is held with one hand and the knee grasped by the other. By lifting up the knee the psoas is put on the stretch. If there is osteitis the consequent muscular spasm will show itself very plainly. All these movements must be produced with the greatest gentleness. In a neurominosis there may be some such spasm,

but it is not persistent. The disappearance of the gluteal fold indicates little.

The physiological facts regarding muscular tonus may not be out of place in this connection.

It used to be thought that the muscles of the body were kept in a state of constant but slight contraction by a stream of nerve impulses sent out from automatic centers in the spinal cord; that the voluntary muscles through this means possess a *tonus*, just as the smooth muscles of the arteries do. The great proof of this was thought to be the fact, that when a muscle is cut across, the two cut ends retract. We now know that this phenomena is due chiefly to the striped muscles being elastic and, normally, slightly on the stretch. This is shown, in one way, by the fact that the muscles of the cadaver retract somewhat when cut, as do also those whose nervous supply is lost.

But, though there is plainly no physiological muscular tonus due to automatic spinal centers, there does seem to be a kind of reflex tonus, very slight in amount, perhaps, but of great physiological significance. Hang up a brainless frog by the jaw, having cut the sciatic nerve on one, say the right side only. It will be seen that the right leg hangs more loosely, and that the tip of the right foot hangs lower than the left. Now this same thing takes place when only the posterior (sensory) roots are cut, and also when only the skin is removed from the leg. Brondgeest has shown that by simply cutting the posterior roots that supply the sciatic the leg is lengthened. It is evident that the slight contraction or tonus of the muscles in the sound leg is due to a constant reflex excitation started at the periphery. This has been called the reflex tonus, and it is a different thing from the old simple muscular tonus. Its existence has a practical interest, inasmuch as it is concerned so greatly with the phenomena of disease, both as regards the points already referred to, and others. Pflüger, for example, has claimed for this reflex an importance in the production of animal heat. A large amount of heat is manufactured by the activity of the muscles. When at rest, of course very little chemical action goes on in them, and if they were perfectly at rest all the time a most important source of heat would be lost. The reflex tonus excites a slight degree of muscular

activity which is enough to increase the heat production. If the irritation of cold air be applied to the skin, the reflex tonus is excited, and by increased chemical changes in the muscles, more heat is developed. It is in this way, in part, that ordinary falls in temperature do not affect the bodily temperature. *Per contra*, when the air is warm the reflex tonus (which Pflüger calls the chemical reflex tonus) is lessened in amount, and the muscles, being less excited, produce less heat.

NEW YORK CITY, Dec. 15, 1881.

ARTICLE IX.

EDITORS OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER:—In an article by Dr. S. V. Clevenger, in the November number of your journal, I was more than surprised to see certain personal references. Whether in a scientific communication it is in good taste to descend to personal villification, may be safely left to the judgment of your readers, but certainly statements along that line that are untrue cannot be in any way defended. The former professional relationship between Dr. Beard and myself can be of but little interest to others; but as the author of the article in question has seen fit to go out of his way to assert that "the junior (?) partner of the firm became disgusted with the trickeries of the senior, and has since the dissolution of the partnership," etc., etc., I desire simply to say that the writer not only has no authority to make such statement, but that it is entirely without foundation in fact. Our partnership was amicably dissolved, and our relations are now friendly.

Allow me simply to refer to a letter by Dr. W. J. Morton, in the December issue of the JOURNAL AND EXAMINER, in which reference is made to the methods known as general faradization and central galvanization. He speaks of them as "pernicious and unscientific;" says that "protest against indiscriminate electrization should be entered again and again, until no reputable physician would dare to PUMP, so to speak, electricity into or through his

patient," etc. Space cannot be allowed me here to show wherein these methods are both rational and scientific. This has been done elsewhere. This much may, however, be said, that, admitting the stimulating and tonic action of electrization, it can be no more unscientific to make the applications general, in those conditions where a general tonic action is indicated, than it is to submit the body to the influence of the shower bath, or the whole person to the action of the sunlight.

General faradization has, however, been used for so many years by numbers in the profession, with increasing gratification, that it seems strange at this date to read such an indiscriminate and wholesale denunciation as that indulged in by Dr. Morton. He might as justly object to anæsthesia, or in the use of Franklinic electricity, to treatment by insulation, which, although a good thing, might literally be termed a PUMPING IN. Among others, Dr. Vater, of the University of Prague, has, in a series of articles in the *Allgemeine Wiener Zeitung*, borne abundant testimony to the wide and varied therapeutic effects of general faradization.

Instead of subjecting the method to the test of theory alone, and then in his ignorance rejecting it, he has put it to the severer and more conclusive test of a patient and discriminating clinical investigation. Our work has been translated into German, and I may perhaps be acquitted of undue egotism when I say that it has been standard in Germany for years, and that the methods of general faradization and central galvanization therein described have been long used by some of her best men.

Rosenthal, especially, speaks enthusiastically of its value, and in this country, among others, Wier Mitchell understands and appreciatcs the benefits that follow its use.

As Dr. Morton, by his own admission (in answer to a question of mine at the last meeting of the American Neurological Association), has had absolutely no practical experience in the use of general faradization, some of the assertions in his communication to your journal can be safely characterized as somewhat premature and rash.

46 E. Thirty-first St., N. Y. A. D. ROCKWELL.

ARTICLE X.

ELGIN, Oct. 17, 1881.

MESSRS. EDITORS:—In the October number of THE CHICAGO MEDICAL JOURNAL AND EXAMINER, just received, my attention is called to an anonymous article criticising my article in your August number, on "Extra-uterine Fœtation."

The article I allude to is on page 421, Article XIII. I hope you will let me answer him in your next JOURNAL. He asks many questions, and of course expects answers. If I did not answer them, some of the readers of your JOURNAL might think, as he says, that the article was a "rude hoax." He says, "when scrutinized by him, the narrative looks improbable on the face of it; and beyond the name of Dr. Rosencrans, bears no evidence of authenticity." Are not the names of two physicians who were present and assisted me given, and their places of residence—Dr. Sutherland, of Victoria, Texas, and Dr. Blake, of Cuero, Texas? He says, "he hopes another such operation was never performed in any other State."

This operation was performed under circumstances the most unfavorable. The patient, by long suffering, was reduced to a skeleton, praying for death. The operation was performed with only two assistants, when five would not be too many. "Article XIII" asks many questions; I will endeavor to answer as briefly as I can. First: "How was it I knew the patient was a subject for an operation, before performing the *unwarrantable* and dangerous operation of paracentesis abdominis?" Early in December, 1879, this patient called at my office, accompanied by her husband (Mr. Thos. Jordan) to consult me about her health. She thought she was pregnant, but felt differently from what she had in former pregnancies. She was certain that she was not right in her womb; stated that she was four months without her courses. My examination led me to think she was pregnant. I never saw anything more of her until I was called on 28th July following to see her at her residence. She had changed so I hardly knew her; she was emaciated, and showed unmistakable

signs of great suffering. She was on her hands and knees on the bed, referring most of her suffering to the lower portion of her back. Laudanum and bromide potassium were administered. This gave her relief, sleeping most of the night. In the morning she related to me that when she was "nine months gone" she was taken with "labor pains" which lasted all one night; that up to that time she had felt motion, but none since. I think the fœtus died that night. I examined the uterus, and was sure there was not a fœtus in it. Palpation and the extreme enlargement of the abdomen satisfied me that there was fluid in the peritoneal sac or in the cyst containing the fœtus, if she was carrying one, and I believed she was. I stated to her and to her friends the necessity of an operation, explaining the nature of it. She begged to have it done, saying she would rather die under the operation than live and suffer any longer. It will be considered strange that she had not sent for a physician sooner. The only explanation is that they were poor and ignorant people, and she had depended on an old "midwife" in the neighborhood. Owing to her living in an out-of-the-way place, I advised her being carefully brought to town on a mattrass in a spring wagon. The second day after that she was brought to town. I gave her a day to rest, and then performed that "unwarrantable and dangerous operation" of paracentesis abdominis. This gave my patient immediate relief, and enabled her to eat and retain food, as well as lessening her pain. This "unwarrantable and dangerous proceeding" prepared her better to undergo the operation of the 20th.

"Why was the operation delayed so long?" As I stated in my previous article, immediately after the operation of opening the cyst with the trocar, I was enabled to more clearly make out my diagnosis. I wrote it out, and sent it to Dr. Sutherland, of Victoria, inviting him to come as soon as possible and assist me in the operation. It was a week before he came, accompanied by Dr. Blake, of Cuero, and Dr. Hopkins, of Myersville, now of Victoria. They arrived on the 9th of October. We all repaired at once to see the patient. After an examination, they agreed with me that an operation was necessary, but that in her very miserable condition, hardly a ray of hope was left. We prepared

to operate next morning (10th). A violent storm of wind and rain sprang up that night, and in the morning the town was covered with water from the bay. The doctors would not remain, but left town, and half of the population of the place fled to the country for safety. (Doubtless it will be remembered that in September, 1875, a cyclone swept over that town, the waters of the bay drowning over 200 of its inhabitants, and half of the place was destroyed). This caused the delay of the operation until the 20th. Drs. Sutherland and Blake returned on the 19th. Dr. Hopkins was unavoidably delayed, which he regretted very much. At ten o'clock in the morning the operation was commenced, the patient being laid on the operating table and chloroform administered. So low was my patient at one time during the operation that it was whispered to me, "she is dead." She was allowed to recover from the influence of the chloroform, and brandy and water were fed her by the teaspoonful during the remainder of the operation. Critic says, "I cut and tore as on a cadaver;" yes, and what was a dead fœtus, a rotten placenta, and every thing belonging to it but cadaver? I was inflicting no pain while dealing with those parts; I tore where it was not safe to cut. He quotes high authority why I should not have removed the placenta. I believe that any author he quotes would have removed it. Would he have left it? With a rotten placenta left in the patient's body, and the wound closed, I certainly think she would have died.

"Where did the placenta grow?" In the most dependent part of the cyst, to the right ovary. "Why remove the right ovary?" Because it was involved in the cyst. The pregnancy was a right ovarian one.

"To what did the cyst adhere?" To the abdominal walls extensively, and to the omentum. As stated in the former article, I cut away some of the omentum. I then ligated it with catgut, and returned it in its place. "Was there no peritoneum met, and what was its condition?" The peritoneum was "met" after cutting through the abdominal walls; its condition normal. It was first taken up carefully with a tenaculum, after the bleeding was stopped, then carefully cut an inch or so, then a grooved

made. This brought

I then first passed in a running but slowly, I ie a cut through the cyst, the precaution not to let abdominal cavity. "How was the the wound?" It was let alone. including it in the stitches. to compress the abdominal aorta?" to prevent any oozing of blood from the

large of putrid matter through the drainage portions of the cyst I had to leave, not think- attempt to remove all, owing to the almost of the patient at the time. "Is it possible for to endure such cold *so long* and live?" It for my patient lives. He asks "if it was catheterism for a month?" He had better again. Mention in it is made of using "Were opiates used?" A little opiate every night for the first week after purpose, viz., to keep the bowels to give her good sleep. "What is the Debility. "What was the The drainage opening was slow flesh. She gained thirty the condition of the of preservation, better was discolored and rotten. at the time I first died the night she had dead about three

H. Rosencrans, M.D.

Society Reports.

ARTICLE XI.

CHICAGO MEDICAL SOCIETY. Stated Meeting, November 21, 1881. Dr. E. Ingals, President, in the Chair.

PREDISPOSING CAUSES OF THE ALCOHOL AND OPIUM HABITS.

Dr. Mary H. Thompson read a paper having the above title. She started from the fact that dietary measures are as important in the human economy as surgical treatment. The use of too much wine at the table was in both sexes a frequent cause of intemperance. Another cause was found in the frequent prescribing of alcoholics and opiates to alleviate suffering, especially in women and in children, who form four-fifths of the ordinary patients. After a while, the patient prescribes for herself in hysterical troubles, slight headaches; or takes alcohol or opium simply as a stimulant. Then intoxication is a most frequent cause of accidents. It was a wiser measure to encourage the patient to bear pain until the cause of her disease was removed, and very unwise for mothers to dose their infants with paregoric or other opiates in order to induce sleep. She related a few cases of chronic opium poisoning in infants referable to the above cause.

Whisky is often a substitute for opium. It was an ascertained fact that patients had begun taking cod-liver oil with whisky, but soon dispensed with the oil and kept up the whisky. As a method of alleviating pain, she proposed that of Emmet, which consists in the external application of heat in the form of hot water to the extremities. She thought opiates should not be given in inflammations, nor after surgical operations, nor in septicæmia.

Females were more predisposed to form the opium habit, probably on account of a greater susceptibility to pain.

Hereditary tendencies and various circumstances act also as causes.

The action of narcotics is in ratio of the development of the brain, and their dose is not well ascertained. Dr. Thompson had met many cases of opium habits, and she knew several ladies, some from the best society, who had entered the hospital in order to be fed with opiates. Some accumulated doses until a couple of grains were reached, which they took at one dose, to get the full effect of the drug. The doctor proposed the following questions, which remained unanswered:

1. What was the immediate effect of alcoholics on the liver?
2. How can we prevent the habits?
3. And after these have formed, how should they be remedied?

DISCUSSION.

Dr. Odelia Blinn stated that overwork, which is a characteristic of the people of this country, was a most frequent cause of intemperance. Another cause was the poor diet on which the working class fed; they endeavored to supplement the quality of their food by a large imbibition of alcoholics. Her experience had been that a moderate use of diluted alcohol increased the appetite and helped digestion in healthy people, and was especially useful when the vitality was sinking in various diseases. Narcotics, she thought, were too easily procured by the people at large.

Dr. S. R. Millard agreed with the lecturer, that prescribing narcotics was a frequent cause of the opium habit.

Dr. Allport thought that the external use of heat, as recommended by Dr. Thompson, produced a withdrawal of blood from congested centers, and was a most efficient palliative of pain.

Dr. S. J. Avery said that we had not yet found a substitute for the anodynes. In pneumonia, he had found alcohol the best remedy; and the same was true of opium in peritonitis. Instead of creating an appetite for stimulants, it had been the reverse; his patients had never kept up the habit. He believed in hereditary tendencies.

President E. Ingals, an absolute believer in temperance, thought he had been fortunate not to come across any habitual drunkard or opium eater who could refer his habits to a physician's treatment. He always prescribed opium and alcohol in diseases in which he expected good from their use, except in cases of reformed drunkards.

Dr. C. W. Purdy stated that an infusion of absinthe was a good substitute for alcohol whenever one wished to break the habit of drinking. It should not be taken too long. He believed that opium acted as something specific in inflammation, and that nothing equalled Dover's powders to break a cold.

Dr. W. H. Curtis read a paper, an abstract of which follows:

DISPOSAL OF THE DEAD.

Cremation among the Greeks and the Romans was reserved to the chiefs and considered a high honor, but it also solved the problem of a quick destruction of the dead during the wars of the empire against the barbarians. The first Christians buried their dead in the catacombs, and the wish to be buried with martyrs and saints gave rise to intra-mural burying. After all, it is a difficult matter to convince the people that death levels all. Burial does not render the body innocuous, but is a cause of pollution of the water, of the air, and a direct danger in opening graves.

The question of interest on the part of societies and trades had always been powerful. Laws prohibiting intra-mural burying grounds were early edicted by popes and bishops. Epidemics of pestilence due to that cause have been referred to by Ambrose Parè. However, the lecturer did not believe that the exhalations from dead bodies could give rise to any one disease in particular, but fed the germs which facilitated the spread of all the infectious and filth diseases. Dr. Curtis then related the experiments of Pasteur in anthrax, and the manner in which the germs of the disease are brought to the surface by earth-worms which feed on cadavers. (See the JOURNAL, November, 1880). He was satisfied that the germ theory explained everything concerning infectious diseases. That the dead kill the living is only too true. The decay of organic matter is proven to be a most common

cause of disease and death. How, then, shall we dispose of the dead? It is a false sentiment which is manifested for inhumation. There is no possibility for our bones to be left undisturbed. Millions have been buried in small graveyards. Body snatching is on the increase, and no one is protected against it by inhumation. And the security of the dead necessitates such expenses as cannot be borne by the poor. Besides, in every one exists at certain times some dread of being buried alive In some it becomes a subject of paramount importance. We can seldom reach a positive evidence of death. But cremation would remedy all this. It is the only advisable means for disposing of the dead without any harm to the living.

The disadvantages are few. Cases of poisoning are rare, and the detection of vegetable poisons is practically impossible in the exhumed body. Cremation was costly in the pursuance of rites, but very cheap in the burning of martyrs.

By the Siemens process the body does not come in contact with the fire, but is cremated by a great heat generated outside the retort.

The cost would average fifteen dollars, and would thus be very accessible. However, expenditures were of little account, and people will, as ever, lavish money on the dead. The lecturer considered cremation a present necessity, while it was at the same time a mark of progress. There was no room, and should not be, for such plagues as our present cemeteries. "Man should become a handful of ashes, and nothing more."

In America, there was nothing but individual sentiment and prejudice against cremation. There was no law against it, and the American people are so practical that their notions are readily turning in favor of cremation.

Dr. Roswell Park exhibited a piece of wood $2\frac{1}{2} \times \frac{1}{2}$ inches in size, which he removed from the superior maxilla and zygomatic fossa of a child fourteen years old. It had been retained fifteen months, and had given rise to sinuses in the soft palate, in the nose, and beneath the orbit.

Meeting held October 3, 1881. Dr. E. Ingals, President, in the Chair.

IS THERE A CHRONIC CARBOLIC ACID POISONING?

Dr. Andrews read a practical paper on the above question. He began the use of the antiseptic treatment fifteen years ago. A few objections had since arisen as to the use of carbolic acid. The spray was a fine mist of steam, which did not always kill bacteria, which, it has been proven, pass sometimes through it intact, though they always die when they come in contact with the surface of the body wet from a condensation of the carbolized steam; a lotion of carbolic acid, then, is all that is necessary. He had performed but few ovariotomies, but he believed the spray very efficient in such cases. The use of the McIntosh cloth sometimes produced an intense heat, partly from impeding perspiration, and this had proven a serious difficulty whenever a large surface of wounded tissues was exposed, as in amputation of the breasts. In such cases, he removed the dressings more frequently. Thus, many of his patients had their dressings renewed twice a day. But there must have been a greater absorption of carbolic acid under these circumstances. After a week or ten days he has met with vomiting and irritation of the stomach in some cases. Was that due to a sort of chronic carbolic acid poisoning?

Not long ago, a patient had both of her breasts removed for the second time on account of sarcoma. The McIntosh cloth was not used. Vomiting set in the tenth day. The urine was not darker than usual. The doctor replaced carbolic by salicylic acid, and the patient got well.

Another patient presented himself at the hospital with a fluctuating abscess in the thigh, which proved a psoas abscess. Dr. Andrews aspirated. Later, mortification set in, which was treated with injections of carbolic acid, but these could not reach the deeper parts of the abscess. After a week or two, vomiting set in, and continued after salicylic had replaced carbolic acid. Has seen many cases resulting in that same manner. Carbolic acid being an alcohol, may it not produce a sort of intoxication in its systemic effect? Or does it act only as a local agent? It is

asserted that carbolic acid resembles arsenic in this last particular. Thymol he found more irritating when used in 2½ per cent. sol., while he does not believe in its efficacy if used one part in five thousand.

Dr. Andrews made the suggestion, as a conclusion, that antiseptic dressings should be left undisturbed for days, as Lister proposed.

Dr Holmes presented an abstract of two cases which have been more fully reported in Knapp's Archives of Ophthalmology.

I. Mrs. H., forty years of age, while sitting quietly with friends, experienced a very sudden excruciating pain in the left orbit, followed immediately by great swelling and protrusion of the globe between the lids. All motion of the eye, as also its vision, was destroyed. A loud aneurismal murmur was at once observed by the patient. This could be distinctly heard when the ear was placed on the head, especially near the left orbit. On account of the shock and continued excessive prostration, surgical interference was delayed from day to day.

By the request of Prof. Etheridge, the attending physician, I had an opportunity of examining the eye two weeks after the attack. At this time the patient seemed too weak for the treatment of aneurism by the use of veratrum viride or by injection of a styptic into the sack. Pain was relieved by opium, which was well tolerated. The cornea, which was becoming opaque, was kept moist and protected from the air. The propriety of ligating the carotid artery was considered in consultation with Prof. Gunn, when, fortunately, in two days, the symptoms began spontaneously to abate. At the end of two months the pain, swelling and pulsating sounds had entirely disappeared. The globe was atrophied.

As the patient began to improve, it was observed that there was almost complete paralysis of the left side of the face. There appeared also, at the same time, loud râles in the left side of the chest, attended by a severe cough. These symptoms continued through life, although the general health became unusually good.

At the end of two years Mrs. H., without the slightest premonition, died suddenly at the breakfast table. No autopsy was

obtained. Although no disease of the arterial system could be detected, there was undoubtedly a weak condition and rupture of an artery in the orbit, and finally in the brain.

II. Traumatic loss of the iris.

Mr. D., aged sixty years, received a severe blow on the right eye from an iron lever. There was considerable hæmorrhage, with total loss of sight and great pain. The latter symptom speedily subsided. Vision returned sufficient to enable the patient to walk alone in localities in which he was acquainted.

Two years after the accident, in examining the patient for a disease of the other eye, I learned the short history just recorded. I observed that the iris was entirely absent in the right eye. Near the periphery of the cornea, at the inner angle, was a small dark scar in the conjunctiva, the seat, probably, of the rupture of the walls of the globe, through which the iris was forced.

The lens remained in its normal position, slightly cataractous. Accidents of this nature are very rare.

ARTICLE XII.

CHICAGO MEDICAL SOCIETY. Stated Meeting, December 19, 1881.

Dr. G. C. Paoli occupied the chair, while President E. Ingals, read the paper of the evening on

THE MANAGEMENT OF PARTURITION.

The writer thought that we would gain as a profession if, instead of so generally directing our investigations into the unexplored and unknown, we would sometimes retrace our steps, and reconsider and reappropriate practices that have been discarded or forgotten.

No class of patients merit our sympathy more than women when in the pangs and perils of labor, and to none do the arts of our profession bring more substantial benefits. Neither physicians nor laymen fully realize the degree of skill which is habitually exercised by the practitioners of obstetrics, or the benefits they confer on those who receive their professional

[illegible] more knowledge, judgment, courage and [illegible] of the surgeon and they are hardly [illegible] in which the service is rendered, and [illegible] as such a fee as the surgeon would exact [illegible] operation the demand would be thought exorbi- [illegible] because the occasions for obstetric operations are [illegible] and they are rarely performed by so many. [illegible] required the great responsibility assumed. [illegible] hours and exhausting labors which the practice [illegible] involves the pecuniary returns are more inadequate [illegible] and other branch of the profession.

The Lying-in Chamber.—The lying-in chamber should be—[illegible]—airy, quiet, pleasant and capable [illegible] thoroughly ventilated without drafts. The invalid of a [illegible] should always be entitled to as good a room as there is in [illegible] and a fire in it when the weather will permit, [illegible] desirable. The matter of the healthfulness of the [illegible] is of vastly more importance than is realized. It would overcome the vitality of the most robust person to lie down [illegible] a month in a small closed room in cold weather heated by a stove, constantly occupied by mother, child and nurse, with floral offerings of the sick and in which many visits of congratula- [illegible] are received. The depressing effects of this atmosphere are obvious enough at the present in the few moments of his pro- [illegible] call on the patient, becoming habituated to it, is un- [illegible] how impure the air is that she breathes; and wonders [illegible] so feeble and that she gets up so slowly. But few persons should be admitted to the chamber. During the labor the phy- [illegible] nurse and one other female attendant are better than [illegible] and the absence of the husband is generally desirable.

During the first two weeks the patient should be kept excluded [illegible] visitors, only a very few of her most intimate and judicious [illegible] being allowed to see her for brief periods and at long [illegible] We will suppose the patient is seen at the commence- [illegible] of labor. The manner of the medical attendant in the [illegible] is important. He should be quiet and cheerful, and so [illegible] himself as to impress on the patient the conviction that

he feels a genuine interest in her behalf, and that he is competent to conduct the case to a successful issue. I have seen attendants on these occasions who were brusque and rude, with veterinary airs quite unsuited to the place. It is a great point gained when an early examination enables the physician to assure his patient that the presentation is favorable, and that the case may certainly be expected to reach a safe termination. If, however, anything is unpromising, it is best that the patient should be apprised of it; the information being accompanied with the assurance that the difficulty is not beyond the reach of obstetric skill, though it may cause delay and difficulty. This will increase the confidence of the patient in the candor and knowledge of her physician, and will cause her to endure whatever she may be called to bear with increased courage and patience.

If the patient is a primipara, it is better to tell her that she has before her a painful ordeal, that will demand all her fortitude; but that it is only what all mothers have met and passed, and that her rewards will abundantly repay her sufferings. During the first stage of labor the patient may lie down, sit up, or walk about the room, as suits her comfort and inclination, but it is best she should not take too early to the bed. If the lower bowel is not empty, it should be relieved by an enema. When the womb is only commencing to dilate, it is not necessary that the attendant should remain in the house, though he should see the patient often enough to note the progress made, and to relieve her mind from unnecessary anxiety, an examination being made every one or two hours, as the case seems to demand.

The position of the patient during labor is not essential, though most patients prefer the back, and I think it is best, though this may sometimes be advantageously alternated with that of the left side after the labor is well advanced. The placenta is best delivered when the patient is on the back, as in this position the womb can be more effectually manipulated. Should there be considerable pain for a number of hours and no consequent dilatation of the os uteri, morphia should be administered, for such pains are worse than useless. They increase the irritability o the womb, and the organ is contused and injured by its own unavailing contractions. The anodyne will allay the irritabi y

and promote the dilatation of the os. Patients often attempt to hasten delivery by voluntary expulsive efforts of the abdominal muscles. This both retards the labor and exhausts the strength of the patient, and if permitted at all it should only be when the labor is nearly completed. Such voluntary efforts, however, render valuable aid in the expulsion of the placenta.

During the progress of dilatation all manipulation of the os is injurious. If the labor goes on favorably its progress should be mainly trusted to the spontaneous influences of nature's processes. On this point, however, I do not wish to be misunderstood, for I do not fully endorse the oft-repeated maxim, that "meddlesome midwifery is bad"—for non-meddlesome midwifery is no better, and the judgment of the practitioner is equally shown in knowing when to meddle and when to "stay the obstetric hand," when the soft parts are perfectly relaxed and the dilatation of the os is complete—but not before; if the membranes resist the contractions of the womb they should be ruptured by the attendant. The womb, no longer protected by the amniotic fluid, is excited to increased contraction by contact with the irregularities of the child's body, while its lessened size enables its muscles to act in shorter circuits with increased power. When flexion is taking place this may sometimes be aided and the termination of the labor hastened by pushing the head upward in the absence of pain, so as to free it from the pubes, and then with the finger pressing the occiput forward and downward when the pain returns.

In supporting the perineum it should be gently drawn a little forward. When the perineum is ruptured—and there is no skill or care that will always prevent this accident—the nurse should keep the wound cleansed by proper ablutions and leave it to heal without surgical interference. I have always treated this injury in this manner, and I have never had a ruptured perineum occurring in my own practice that required a surgical operation. In very infrequent cases, the laceration is so extensive as to demand an operation, but if so the operation should be secondary. The patient will be better able to endure it after she has recovered from her confinement, and it may then be made on healthy tissue.

After the child is born I try and get the placenta soon and seldom allow it to remain longer than ten minutes. Its early

removal lessens the danger of hæmorrhage; it puts the patient's mind at rest, and the womb acts better if it is not suffered to remain too long in a state of repose after its contractile efforts on the child have ceased. For this purpose contractions are best secured by manipulations through the abdominal walls, but if the adhesions of the placenta are not soon broken up, or if there is hour-glass contraction, or inertia of the womb, it is better to introduce the hand into the cavity before the os becomes contracted, or the soft parts sore, after the child has passed. During the delivery of the placenta the attendant's hand over the womb should give him constant assurance that the organ preserves its globular form. With this precaution I do not understand how inversion is possible. As a security against post-partum hæmorrhage, the hand should be kept constantly over the womb for about one hour after it is empty, to detect and prevent any tendency in the organ to fall into a state of inertia. Auxiliary to these manipulations, if bleeding is feared, ʒj of the fluid extract of ergot should be administered when the child is nearly expelled or immediately after. Ergot seems to be a hæmostatic, but I have not much confidence in its power to excite uterine contractions, and I think it is best that we should place little reliance on it for this purpose.

When the dilatation of the os and soft parts is complete and the pains are insufficient, I would use forceps rather than suffer too much delay, even in cases that would finally terminate without such interference; but if the delay is from inertia, care must be taken not to empty the womb until we feel assured that its contractions may be made to follow the slow extraction of the child. The skillful use of forceps is not a source of danger, and when two or three hours of agony can be saved to the mother it is no small consideration. The physician should never use instruments for his own convenience, but only in the interests of the mother or child. If the head can be made to present I would never attempt podalic version. With this presentation the operation of turning is more difficult and dangerous than delivery with the forceps, and I have never attempted it, under such circumstances, without having had occasion to regret it. I cannot adequately recount the praises due the obstetric forceps.

It outranks all else in the armamentarium of surgeon or physician. No other instrument has cut short so much suffering or rescued so many lives. I can easily excuse the anathemas which Dr. Slop poured out on his servant Obadiah, for having tied his in a green-baize bag, with good, hard, honest, devilish tight, hard knots, made *bona fide*, so that the Doctor was unable to reach it in the moment of emergency; anathemas that forced the gentle Uncle Toby to exclaim, "our armies swore terribly in Flanders, but nothing to this—my heart would not let me curse the Devil himself with so much bitterness;" and all this, though the forceps threatened some sore misfortunes to the luckless Tristram, then in the imminent moment of his nativity. The blades, too, have been applied to ornamental, as well as useful, purposes. You will remember that after our city was consumed by fire, many preserved as mementoes of the conflagration various objects found among the debris. Almost the last of these to remain are a lot of the blades of obstetric forceps, which I have annually seen stuck in the earth surrounding a flower bed in private ornamented grounds. I could never quite satisfy myself whether the blades were placed there entirely in the interest of decorative art, or whether the horticulturist did not have a latent belief that they would help to make the flowers come out.

The abdominal bandage after labor, although not indispensable, affords much relief and prevents hæmorrhage. An old linen towel, reaching from the pelvis to the thorax, answers the purpose. After delivery, the bowels are generally paralyzed and constipated, and it used to be the custom to move them in two or three days. Dr. Ingals made it his practice to allow them to remain so for four or five days, and he thought the administration of castor oil was liable to be followed by constipation. He prescribed an enema instead.

As to the diet, it required some attention, the digestive system being generally impaired. He believed potatoes were then specially indigestible. Four or five days after labor, excessive perspiration may take place, and is best relieved by 10 or 12 grains of quinine, though it has nothing to do with malaria. The patient should not use her eyes for reading or needle-work for a month after confinement. A number of patients lose their hair

during convalescence. The tr. of cantharides, one part, to five of alcohol, is a good application. No patient should get on her feet before the ninth day.

Discussion.—Dr. G. C. Paoli thought it was not always possible to select a good room, and he believed it was criminal on the part of proprietors to rent to poor people basements unfit for any one to live in. As to the use of ergot in labor, he had used it favorably, but the tr. or fl. extr. were not worth much. Half grain doses of ipecac had a special power for contracting the os uteri. He referred prolapse of the womb in many cases to an early recovery from labor, and the parturient woman should not get up till the twelfth day. He regarded the bandage as something indispensable, but a flannel bandage is preferable, on account of perspiration.

Dr. W. T. Montgomery stated that cases of asthenopia are often referable to straining of the eyes after labor. He recommended as a prophylactic against hæmorrhage, to keep the feet and hands of the patient warm.

Dr. Jane E. Walton made it her practice to get the patient up early, that is, not later than the twelfth day; and recommended the use of forceps whenever convenient.

Dr. E. F. Ingals made the query, Does the use of forceps predispose the child to convulsions afterward? He had seen convulsions occur after six months in one case, and after a few weeks in another. He recommended disinfecting injections after labor. They were grateful to the patient. Also, ablutions three times a day.

Dr. E. Ingals, in reference to vaginal infections, said that they should be used whenever something had been retained, and whenever the lochial discharge had an offensive smell. He did not believe that the use of forceps increased in any degree the liability of infants to convulsions. In bad cases of post-partum hæmorrhage he emptied the uterus of all clots and pressed its walls over one hand inside, with the other hand holding the uterus through the parietes of the abdomen. He regarded this as a more efficient compression of the aorta than if pressure was made over the latter. He did not believe that ergot produced contraction of the womb, as generally supposed.

Dr. Tucker agreed with him on that point. H. D. V.

Editorial.

ARTICLE XIII.

THE preliminary announcement of the Medical College, lately organized in this city, has been laid before the members of the profession. Its published announcement of its proposed methods of securing competent medical instructors has also in these pages been given to the world. The ground for the new building has been purchased; and, in brief, it may be said, that the college is practically before the profession and the public to be judged upon its merits.

However much the supposed necessity for the multiplication of new schools in medicine may be deplored, it is certainly gratifying to note that each, as it comes forward, acknowledges the imperative necessity of announcing a broad advance in the standards and requirements for its matriculates and forthcoming graduates. The Chicago College of Physicians is no exception to the rule. The Board of Directors declare that the institution is "formed in the interests of a higher and more thorough medical education; and that they intend to make its organization, equipment and plans of teaching so excellent and complete in every particular, as to enable it to take rank with the foremost medical schools in this country. The highest practical standard of preliminary acquirement will be fixed and exacted; a pupilage of at least four years, including a graded course of instruction covering at least three full winter sessions, will be compulsory; and the most satisfactory proofs of proficiency in every department of medical knowledge will be required of all candidates for graduation. The examinations for a degree will be conducted by a

committee of examiners separate and distinct from its teaching corps."

Certainly this is a high and worthy standard; and if it shall be rigidly maintained and successfully applied, not only the medical men of this State, but the profession throughout the Northwest, will have reason to be thankful that the new medical school was called into existence. Such an institution needs no excuse for its existence. It is itself the best explanation and apology for its perpetuity. Its *raison d'être* is the survival of the fittest.

Books and Pamphlets Received.

Manual of Midwifery. By Alfred Meadows. Fourth Edition. G. P. Putnam's Sons.

Diseases of the Eye. By Henry D. Noyes, M.D. Wm. Wood & Co. Medical Library, 1881.

Handbook of Uterine Therapeutics. By E. J. Tilt, M.D., London. Wood's Library, 1881.

A Study on Tumors of the Bladder. By Alex. W. Stein, New York. Wm. Wood & Co.

Frozen Sections of a Child. By Thomas Dwight, M.D. Wm. Wood & Co.

Suppression of Urine. By E. P. Fowler, M.D. Wm. Wood & Co., 1881.

Lectures on Electricity. By A. D. Rockwell, M.D. Wm. Wood & Co., N. Y.

Pocket Book of Physical Diagnosis. By Dr. Edward T. Broen. Blakiston, Philadelphia.

These are the characters by which you are to recognize a hernia of the epiploon alone: The tumor is dull, and presents no gurgling on pressure; you will find these signs described in your books, and they are deceptive, for an entero-epiplocele presents these characters; but one symptom, to which I most especially direct your attention, is the narrowness of the pedicle of the hernia, and the almost complete indolence of this on pressure, joined to the absence of a resistant plane behind the ring. This narrowness of the neck is explained without difficulty, when we recall the texture of the epiploon. We understand very easily that the fat may be depressed by the constricting band, as by a thread.—*M. Desres, in Gazette des Hôpitaux.*

Condensations from Late Editorials in the Medical Press.

PSYCHOLOGY IN PHYSIC. — In an article on "Doctor and Patient," our versatile contemporary, the *Spectator*, lays it down as an axiom that "to be a really good physician, a man must be a psychologist;" by which he means that the inner nature, or heart, or soul—call it what we will—of the patient must be taken into account in every diagnosis and in every scheme of treatment, as part of the case, and of the subject as a whole. This is undoubtedly true. Whatever may be the causal relations between mind and body, the mental part of man's being is not less real than the material, and it plays an equally realistic part in the production of disease, the constitution of morbid states, and resistance to remedies. The practitioner who should leave the mind out of consideration in the study of disease in the concrete, or disregard it in the plan of treatment he adopts, would be closing his eyes to half the task he undertakes, and throwing away half the means and power by which it is to be accomplished. —*London Lancet, November.*

VIVISECTION.—Three of the addresses delivered at the late meeting of the International Medical Congress dealt with the subject of the value of experiments on living animals. Each was written by a master hand, fully competent for the task, and presented the arguments in favor of such experiments from a different point of view. Professor Fraser demonstrated how necessary such experiments are to scientific investigation in pharmacology, and illustrated from his own experience how completely the present act for the Prevention of Cruelty to

Animals has stopped progress in this direction in our own country. M. Simon, in his address, showed the good results such investigations have already rendered to preventive medicine, in particular, and pointed out the abundant harvest yet to be reaped in the same fields of labor. Professor Virchow made a powerful appeal for perfect freedom in scientific research, and conclusively showed that our present knowledge of life is founded on experiment, and that the only reliable and practicable means of increasing and perfecting it is also experiment.—*Idem.*

BACON AND MICROSCOPE.—The organization of laboratories in which foreign bacon shall be examined is announced. A school, or rather a course of micrography and helminthology, will be organized, with the aim to create in France an army of inspectors, whose mission shall be to protect us against the invasions of parasites through the most useful aliments. (The editor reviews here, in a sarcastic tone, the trichinosis scare, and quotes the *Marseille Médical*): "From Feb. 24 to May 28, 1881, a special commission, under the direction of M. Marroin, made thirteen examinations, looking over 5,229 specimens of bacon. 24,839 histological preparations were made. Among these 70 were found to contain trichinæ, or an average of $\frac{1}{3}$ per cent. These represented 1,229 barrels, containing hams, salt pork, ribs and steaks. About 9,000 barrels came under the supervision of that commission, giving an average of 0.77 trichinosed barrels in 100; or about 0.031 of trichinosed pieces in a hundred. The examinations made at Havre failed to discover any trichinæ at all.

"We must acknowledge this, that the meat exported from America presents a pretty good appearance, and could not be that of diseased animals, if we pay attention to the quantity of adipose tissue which it contains."

In view of these results, which do not render it possible to affirm in every case the wholesome nature of the meat examined, it seems that England was wise in abstaining from any coercive measures, adopting the principle that the best preventive of trichinosis consists in a good roasting or boiling of the suspected meat, and this is also a general rule in this country.—*Union Médicale et Scientifique du Nord Est, Oct.*

DOES VACCINATION PROTECT?—It is becoming somewhat tiresome to have to reiterate the truths about vaccination. And it will sometimes occur to us that the best way, after all, would be to leave the question alone, and let the people find out the facts for themselves. Why should the doctor worry himself? If the people do not and will not believe in vaccination, why not drop our quills, and, having vaccinated ourselves and families, let the disease work away in its old-fashioned seventeenth century style. In 1721, half of the city of Boston lay sick with the small-pox. Would not the return of such a visitation be better than any pamphlets or statistics?

We present here a very few of the facts and figures upon which this universal agreement is based. It should be remembered, however, that aside from statistical proof, nearly every physician, at some time during his life, gets personal evidence of the efficacy of Jenner's discovery.

Previous to the introduction of vaccination, the annual mortality from small-pox throughout Europe was about three thousand to every million inhabitants. During the forty years subsequent, the mortality from the same cause was reduced in Sweden to 158 per million; in Westphalia to 114; in Bohemia, Moravia, and Austrian Silesia to about 200; in Copenhagen to 286; in Berlin to 176; in England to 200.

In 1853, the Epidemiological Society received two thousand letters from medical men, affirming their belief, from personal experience, in the protective power of vaccination. Dr. Simon obtained similar answers from five hundred and forty eminent English and foreign physicians, out of five hundred and forty-two to whom letters were addressed.

One observer, Marshall, has shown that among 757 persons exposed to small-pox, 231 had been vaccinated, and of these latter only 27 took the disease. All the remainder, except seven, were infected. In 1871, an anti-vaccination excitement was fomented in England, and Parliament undertook to investigate the question. A large committee was appointed, and testimony taken from every quarter. The result was an overwhelming refutation of the points claimed by the anti-vaccinationists.

In the Franco-Prussian war, an epidemic of small-pox arose

among the unvaccinated inhabitants of Brittany. It spread among the French soldiers, and destroyed 23,000 of them. The Prussian army, which was frequently and extensively exposed, and was larger than the French, lost only about 250 persons by the disease. The Prussian army was thoroughly vaccinated, the French was not. In the whole Prussian army for twenty years, though often exposed, only four fatal cases of small-pox occurred among the revaccinated.

There are a few things which have to be borne in mind when arguing for vaccination:

1. Vaccination is protective only when the virus is good, and has entered and affected the system.

2. There is a very small number of persons who will take small-pox if exposed, whether they have been vaccinated or not. If vaccinated, however, most of these will have the disease less severely.

3. Vaccination protects in most cases only for a certain period of years, and revaccination is necessary.

4. Vaccine lymph may possibly deteriorate after passing through the human system many times. This deterioration of humanized lymph has probably taken place in England, and perhaps elsewhere in Europe.

5. Small-pox varies in malignancy with the epidemic. There is no evidence, however, to prove that small-pox is any less malignant now, on the whole, than it was eighty years ago.

The above facts have to be considered in passing judgment upon the so-called statistics of anti-vaccinationists.—*Medical Record.*

PRACTICE OF MEDICINE BY DRUGGISTS. — Under the care of the senior editor, lately, came a patient who had been for several weeks under treatment by a "respectable" druggist of San Francisco, on account of a real or supposed venereal affection. He had taken "eight dozen" mercurial pills, which the druggist had persisted in prescribing until a slight induration should disappear. Meanwhile, the general health of the man became more and more impaired, and finally an erythematous eruption covered the body, which induced the prescriber to shut off the

mercury. There is every reason to depend on the veracity of the informant in this case. Such cases are not rare. Indeed, they are so frequent as to have created a feeling on the part of the physicians against apothecaries which should not exist, and which is prejudicial to the interest of both. There should be some way of discriminating against druggists who perpetrate such frauds—for fraud it is, particularly in view of the law which imposes a heavy penalty on the practice of medicine without a license. We propose that every local and medical society keep a record, in which the names of all who are thus guilty shall be recorded—the members of the society to report every case of the kind coming under their notice. Perhaps a black list of this kind would deter some apothecaries from traveling in the "ways which are dark."—*Pacific Med. and Surg. Journal.*

HOSPITALS.—The most frequent error made in regard to hospitals, is that these institutions are the creation of Christianity, and that to its beneficent functions solely has the infirmity and the disease of the world been indebted for such charitable relief. The most distinguished writers and speakers have, before the public, eulogized these noble institutions, and ascribed their creation and multiplication to the representatives of Christianity. Mr. Huxley refutes this popular and wide-spread fallacy, and ascribes the first existence of hospitals to the very morning of medicine; to the days of Æsculapius, and the Æsclepiades.

Mr. Huxley does not hesitate to attribute to this remote era the first creation of the hospital, and he gives such proof that no one can doubt his accuracy or fidelity. It is remarkable, however, that this great teacher did not go still farther back into the dawn of history, and show that, centuries before the Christian era, hospitals existed in India and in Egypt.—*Gaillard's Med. Journal.*

SANITARY SCIENCE JUSTIFIED BY ITS WORKS.—Those State legislatures and town governments which have not yet established boards of health, those which may be hesitating as to whether such notions pay, and certainly those politicians who may have persuaded themselves that a curtailment of the efficiency of such

organizations already established, under the excuse of a little pretended economy, will in the long run be approved by the people at large; all such would do well to devote some study to the recent report of the Local Government Board, which contains, among other things, a statement of the progress of sanitary work in England and Wales. It may be useful to draw attention to the annual death-rate for some years past, as indicating the effect which recent sanitary measures would appear to have had upon the public health.

ENGLAND AND WALES.

Annual death-rate per 1,000.	1841–50.	1851–60.	1861–70.	1871–80
All causes.....	22.4	22.2	22.5	21.5
Seven zymotic diseases.....	.....	4.11	4.14	3.36
Fever.....	.....	0.91	0.88	0.49

From the above figures it will be seen that, speaking generally, the death-rate of the country remained stationary from 1840 to 1870, but that in the period 1871–80 it fell from 22.5 (of the previous decade) to 21.5, a reduction equivalent to nearly four and one-half per cent. It may, therefore, be roughly estimated that about a quarter of a million of persons were saved from death in the ten years, 1871–80, who would have died if the death-rate had been the same as in the previous thirty years.

Comparing, then, 1861–70 with 1871–80, it will be seen from the foregoing figures, that of the entire reduction of 1.0 in the death-rate, more than three-quarters (4.14—3.36=0.78) comes under the head of "the seven zymotic (infectious) diseases;" of the diseases, that is, which are most influenced by sanitary improvements, and most amenable to control by the action of sanitary authorities.

The pecuniary gain may be thus stated: Under the inquiry as to interments, the cost of funerals—all round—was ascertained to be £5 each. The gain under that head will, therefore, be about one million by the quarter of a million of funerals saved during the last decade. The direct cost of sickness has been estimated at about £1 per case. The gain under that head during the decade will, therefore, amount to about three millions; a gain, that is to say, of medical treatment and other

expenses. But the gain to the wage classes, from the saving of [illegible] will have been far greater, or upwards of thirteen [illegible] per annum. Sanitary science, as exhibited in this [illegible] of the Local Government Board, which is merely [illegible] of work actually doing and work that may be done in [illegible] other parts of the world, is certainly justified of her chil[illegible].—*Boston Med. and Surg. Journal.*

The Immediate Arrest of Bleeding from the Nose.—John Kent Spender, M.D., in *British Medical Journal* says: An improved instrument is described in Mr. W. Spencer Watson's book on Diseases of the Nose and its accessory Cavities. It "consists of a gum elastic tube about five inches long, with lateral perforations near the end, and covered with thin caoutchouc membrane in the form of a spirally twisted bag for the last three or four inches of its length. To use it the membranous bag is smoothly folded over the continued tube, and the whole being oiled (diluted glycerin is better) is passed along the floor of the nares till it reaches the pharynx. The bag is now inflated * * * and if a stop-cock is fitted the air is kept in by turning it as soon as sufficient tension is obtained." The cavity of the twisted bag could be injected with water if it were desired, but I have never found this necessary. When I recollect what "bleeding from the nose" was in old days, I can not be too thankful to Dr. Rose for his simple and effective invention. To be called to an obstinate accident of this kind, especially when other medical men had failed, was enough to make one sick at heart from the possibility of adding another failure to the dreary history; and then there was the consciousness that delay might mean impaired health or even death to the victim. The victory is half won when a man is armed with an apparatus which he knows is sure to succeed; and I am now speaking of cases in which he wishes to succeed, and which are not forms of natural blood-letting to be encouraged. The object of this brief communication is to recommend Dr. Rose's instrument for (1) facility of introduction; (2) the extent and evenness of the inflated area; and (3) the possibility of its remaining *in situ* for thirty-six or forty-eight hours, when it may be gently removed, and the hæmorrhagic nostril can be syringed with some cold astringent fluid for purposes of cleanliness and the washing away of blood *débris*.

Selections.

REMARKS ON THE TREATMENT OF CARIES OF THE SPINE IN CHILDHOOD, ESPECIALLY IN REFERENCE TO SAYRE'S PLASTER JACKET.

By HOWARD MARSH, F.R.C.S., Assistant-Surgeon and Demonstrator of Orthopædic Surgery at St. Bartholomew's Hospital; Surgeon to the Hospital for Sick Children.

Two different methods are in vogue for the treatment of caries of the spine. The one confines the patient to the horizontal posture, with the object of relieving the column of weight, and of preventing muscular action. The other consists in the use of some apparatus with which the patient is allowed to go about as usual. The most recent development of the latter method is found in Dr. Sayre's plaster-of-Paris jacket and jury-mast. As these inventions have now been before the profession for some years, the time seems to have come for looking into the whole question, and for asking what are the principles on which such an affection as caries of the spine should be treated; what are the difficulties arising out of the conditions under which these principles have to be applied in different forms of the disease; and what is the absolute, and what the relative value of the means at our disposal for carrying them into effect.

In trying to ascertain what these main principles are, we may, I think, very properly turn to the case of inflammation of the joints in childhood. The nature of the disease is very similar in the two instances; and the functions of the spine, in bearing and transmitting weight, and in taking part in the various movements of the body, closely correspond with the functions of the large joints; of which the knee may be taken as a convenient example.

It is agreed that when the knee-joint is inflamed, it must be kept at rest; and, that rest may be secured, not only is the joint enclosed in some firm apparatus, but the patient is not allowed to bear any weight upon the limb. Either the parents are directed to have the limb maintained in the horizontal posture, or the patient is supplied with an instrument the professed purpose of which is to transmit the weight of the body to the ground, while the affected part is allowed to hang in a perfectly passive condition, with its functions as completely suspended as are those of a healthy joint during sleep. I say nothing of the efficacy of these instruments; this varies in different examples. I allude only to the fact that they are intended to place the joint at complete rest. How does the matter stand in the case of the spine? When a patient with spinal caries is supplied with a Sayre's jacket, and allowed to go about, how are the functions of the column performed? how is the weight above the seat of the disease supported, and transmitted to the pelvic arch, and how are the acts of walking, stooping, rising, lifting objects, etc., carried on? Either the patient is using his spine, or he is using his instrument instead of his spine. If he be using his spine, then the question arises, how is it that a patient may use a diseased spine, though he may not use a diseased knee-joint? while, if it be maintained that he is using his jacket instead of his spine—that the jacket becomes vicariously a part of the skeleton, and replaces the spine in respect to the bearing of weights and the execution of the various movements of the body—the proposition is one which seems to deserve close examination.

First, I will discuss the proposition, that the action of the jacket is to remove the superincumbent weight from the spine at the point of disease; or, what is the same thing, that it supports the weight of all the parts above the level at which caries exists. Let us suppose that the disease is in the sixth dorsal vertebræ, and, in order to simplify the question as far as possible, let us suppose that the patient is standing still. When the body of the sixth dorsal vertebræ is in process of destruction, the fifth tends to descend towards the seventh, with the result that the column bends forward, and that the parts within the angle are compressed. It is, therefore, required of the jacket that it shall take the

weight of the upper part of the column off the lower part, and transmit it by a collateral route to the pelvic arch. If this is to be done, two conditions appear to be essential: 1. There must be an efficient basis on which the jacket may rest; 2. The jacket must have a secure hold on the part of the column which it is required to sustain. Let us first examine the base. In young adult females in whom the pelvis is broad, and much greater in circumference than the thorax, and in whom the waist is small, the jacket rests on the expanded iliac crests, and the adjacent shelving bony framework of the hips, and the basis of support is fairly ample. In adult males, however, the pelvis is much less expanded, and in circumference is often less than that of the thorax; while in children under seven (very frequent subjects of caries), while the circumference of the pelvis measures, say, twenty inches, that of the thorax is often from twenty-one to twenty-four inches. Thus, while the thorax and pelvis in young adult females form a cone with the base directed downward, in males, and quite as markedly in children, these parts form a cone the wide part of which is above. How, then, can the pelvis afford the jacket an efficient base on which to rest, while it transmits the weight of all the parts appended to the upper part of the spinal column? But more than this. In estimating the efficiency of the basis of support afforded by the pelvis, it must be remembered that the tendency of the column is to fall forward, and that therefore it is required that the purchase should be especially firm in front. In front, however, there is no bony point except the symphysis pubis. But this lies too far back, and it presents no horizontal surface looking upward on which the lower edge of the jacket can rest. Indeed, I believe no one supposes that the symphysis does, as a matter of fact, afford any support. Yet, besides the symphysis, there is nothing but the muscular wall of the abdomen, with intestines behind it—structures which, in respect to their capability of giving support to an instrument, may fairly be compared to a more or less tightly filled air-cushion. They yield and recede as soon as the pressure tells upon them. It is, I know, held by some surgeons that the purchase anteriorly is not on the abdominal wall, but on the anterior superior spines and the iliac crests. But can we concede that this is really the

[illegible] children, these parts are so little salient, and are, so [illegible] embedded in the abdominal wall, that the jacket cannot [illegible]. Even if they could be made to serve as points of support, would the skin over them bear the pressure representing the weight of the parts above the curvature? If they were thus used, should we not meet with pressure-sores over them? Though there is a great liability to pressure-sores over the spinous processes of the vertebræ, I have very rarely indeed met with them over the anterior superior spines or the crests of the ilia. Indeed, I believe these points, as a matter of fact—even when the jacket is pinched in above them, so that it has, what a child under seven has not, something approaching to a waist—afford but very slight support. This is evidently the view of Dr. Sayre, who says, at page 17 of his work, that "a detail of practical value is the application over each anterior superior spine of two or three thicknesses of folded cloth three or four inches in length. If these little pads be removed just before the plaster has completely set, such bony processes will be left free from pressure."

Thus, one of the great difficulties in the problem is, that no thoroughly efficient base for the support of the weight which the jacket is required to transmit can be obtained. But, next to a firm base to rest upon, the jacket should have a secure hold on the part of the thorax which it is called upon to support. It has been asserted that the jacket fits so closely, that it molds itself to the alternate ridges and hollows formed by the ribs and the intercostal space, and thus securely grasps the chest; and Dr. Sayre says that it is to be applied so that the ribs are held still, and so that the breathing is rendered diaphragmatic and abdominal. And, he adds, when the thorax is thus firmly secured, the anus and perinæum will rise and fall synchronously with the diaphragm, and the respiration be carried on without difficulty so long as these parts are free from pressure. "It is necessary, in some cases, that the patient should sit upon a chair, with a hole in the seat, like a close-stool, or use an inflated India-rubber ring, like the ordinary life-supporter" (p. 12).

But, surely, here is an instance in which theory and a fervid imagination have overleaped the bounds of what is either advisable, or even possible, in practice. We stand aghast when we are told

that the thorax, during the period of its most rapid growth and development, is to be so tightly constricted that its movements in respiration are entirely arrested. And can we believe that the skin thus firmly compressed—so firmly that no sliding can take place between the bony framework of the thorax and the jacket—would remain free from severe injury? But, if we turn to what is observed in actual practice—nay, even if we follow the instructions which Dr. Sayre himself has elsewhere given us (p. 18), when he tells us that "the bandage should be placed smoothly round the body, and must not be drawn tight"—we cannot maintain that the jacket fits so compactly as we are told it ought to do. On the contrary, I have always found that the finger can be easily passed down between the jacket and the surface of the chest. In considering the importance of the hold which the jacket should have on the thorax, in order that it may remove weight from the point of curvature, we must remember that the work must be done, so to speak, on a fine scale. We cannot safely separate the diseased surfaces so as to establish any considerable interval between them. It is rather a question of moderating the mutual pressure of the opposed surfaces than of completely separating them; so that if our support is to be adequate, it must act within the tenth of an inch; in other words, if it yield by so much as the tenth of an inch, pressure at the seat of disease returns, and the instrument loses its effect. And the difficulty of maintaining this slight amount of separation is increased by the structure of the spine itself. If the portion above and that below the disease were two solid rods, any extension we applied would tend to separate their adjacent ends—that is, to diminish their mutual pressure; but in the spine, formed as it is of blocks, with elastic intervertebral discs, the extension used is to a great degree lost in the general mobility of the column, and cannot be made with any amount of precision to act on the point at which the disease is situated.

Thus, when we see that the amount to which we can safely separate the two segments of the spine which meet at the point of disease is not more than about the tenth of an inch; that the extending force must be conveyed through a column permitting, in its whole length, considerable mobility; that the apparatus

[illegible] so as to surround the spine itself, but the [illegible] and abdomen; that there is no adequate base from [illegible] can take its purchase; that, in fact, this base is [illegible] and often much smaller, than the part for [illegible] required; that, in order that the functions of [illegible] may be carried on, the case must be sufficiently loose [illegible] play beneath it, —I cannot but see the [illegible] the jacket is competent to carry out [illegible] supposed to act. Thus far, how- [illegible] should be standing still, and have [illegible] jacket without reference to muscular [illegible] question, however, calls for some [illegible] action, the spine works, both as a [illegible] by leverage. Thus, for example, when [illegible] upon the lumbar spine, it forms a lever; [illegible] its fulcrum, while the erector spinæ is [illegible] lever acts, it is pressed against its ful- [illegible] movement of one part of the spine on [illegible] with intervertebral pressure. Now, when a [illegible] is fitted with a jacket and allowed to go [illegible] when he moves his spine —when he rises [illegible] the upright position? If it were possible to [illegible] their insertion into the spine, and fix them [illegible] might remain passive, and be carried up [illegible] but, as it is, the spine, with the parts appended [illegible] muscular action, precisely as it is in health, [illegible] amount of intervertebral pressure. It is the [illegible] the spine that is passive. The only effect of the [illegible] the weight which the spine is called upon to [illegible] how it can be held that the spine is at [illegible] vertebral pressure is prevented during mus- [illegible] use of the jacket, or how the condition of [illegible] from that of a dressed knee-joint, in which [illegible] articulation is attended with inter-articular

[illegible] remarks, however, it may be objected [illegible] that of a person as should first be ascertained [illegible] and [illegible] considerations as by the results

which it yields in actual practice. This is true. I will, therefore, turn to this branch of the subject. In the out-patient room at the Children's Hospital, and more recently in the orthopædic department of St. Bartholomew's Hospital, I have applied the jacket to a large number of patients between the ages of one and eight or ten years, and have seen it very largely used by others. In many instances of disease in the dorsal region, the patients, while wearing the jacket, have complained of no pain (but this has seemed to prove nothing, for children often do not complain though they are entirely without apparatus), and their general health has remained good; but the deformity has, in the majority of the cases, steadily though slowly increased. Here and there I have met with cases in which recovery, with more or less deformity, has ensued; but the result has been limited, I believe, mainly to instances in which the disease after a time shows a tendency to undergo spontaneous repair, brought about, perhaps, by anchylosis between the articular processes, laminæ, and neighboring parts of the column, which, by arresting further caving-in, has relieved the bodies from pressure. In disease of the lumbar spine, also, I have on many occasions seen the deformity steadily increase, and at last a large iliac abscess form; but I cannot say I have ever seen any instance in which, even when the jacket was applied in the early stage, the arrest of the disease, and finally its cure, could be attributed to this method of treatment. In watching these cases, it has always seemed doubtful whether the jacket, instead of supporting the parts above the disease—which, let it be noted, include all the trunk and the head and upper extremities—does not simply add to the weight which the diseased column already has to bear.

As to the jury-mast for the treatment of disease in the upper part of the spine, I have not myself succeeded in rendering it useful; and, in cases under the care of other surgeons, its action has appeared clearly defective. In the cervical, as in the other regions of the spine, the scale of extension is graduated to a fraction of an inch; and an efficient action of the suspending straps is counteracted by the alteration of their tension, which results whenever the position of the head is changed. There is the same difficulty in keeping the straps tight as that which is

met with in the perineal band, and which has led many surgeons to discard its use. Wherever I have examined a case in which the jury-mast was in use, I have, I believe I may say, invariably found that, after a few hours, the straps have become so loose as to produce no extension.

In venturing on an estimate of the value of the jacket, I do not forget that children are sometimes much relieved by its application. This fact must not, however, be allowed too much weight. A number of instances might be cited in which, though a method of treatment is acknowledged to be inefficient, it will yet to some extent control pain and other symptoms. The jacket often gives relief, not because it so completely removes intervertebral pressure and keeps the spine at rest that the disease is placed under the most favorable conditions for repair, but because it steadies the spine, and restrains both sudden and extensive movements either forward or laterally. The effect of the jacket is often seen when, in caries affecting one or more of the upper dorsal vertebræ is applied to the trunk below the disease, but does not extend above this level. Here, obviously, it can have no direct influence in supporting the part of the spine above the caries, and yet it nevertheless affords the patient considerable relief.

Having formed these views respecting the jacket, I am left to the conclusion that the best method at present known for the treatment of spinal caries is that by complete recumbency. This plan, if carefully carried out for the necessary time—extending, it may be freely allowed, from six to eighteen months, or even longer—will generally effect a cure; and it will also prevent the occurrence or increase of deformity. It is now well known that the means are at our disposal by which the distressing deformity that used to result in the course of hip-disease can be prevented, so that the patient recovers with a straight though it may be a shortened limb; and the lamentable distortions which now commonly ensue in the course of spinal caries can assuredly be prevented by the recumbent treatment, if it be applied in the early stages of the disease. I know it is objected that this method interferes with the general health, leads to bed-sores, and is very tedious. It is tedious no doubt; but this is a feature inherent in

the nature of the disease, which, in this respect, resembles caries of the tarsus, disease of the joints in childhood, and gland-enlargements, slowly tending towards suppuration. As to bed-sores, they are never met with in children who are fairly well attended to, however long they may be kept recumbent, except in cases of extreme exhaustion and wasting. In ordinary instances of spinal disease, they may be avoided by the use of moderate care and the maintenance of cleanliness. And, as to the failure of the general health from mere confinement to the recumbent posture, this has assuredly been very greatly exaggerated. I have seen numerous instances in which children have remained robust and fat, even though they have been recumbent for as long as two or even three years. The causes of wasting and failing health are usually either pain or prolonged suppuration; and both these may be generally avoided if the recumbent treatment is adopted early and carried out thoroughly.

I believe it is very advisable to combine the use of some firm apparatus with the maintenance of recumbency. For this, the plaster jacket may sometimes be usefully employed, though the poroplastic felt cases invented by Mr. Cocking, of Plymouth, are, I think, decidedly preferable. These cases are very readily applied; they can be easily removed and remolded; they are very light, durable, comfortable, and by no means expensive. I have used them very largely for patients at the hospital, and have found them very satisfactory, both for acute disease during the period of recumbency, and also in the convalescent stage of the affection, when the patients are allowed to move about.

A Report of Twenty Cases of Injury to the Head, with Remarks. By John C. Schapps, M.D., of Brooklyn, N. Y.

Nothing is more characteristic of injuries to the head, as compared with those to other parts of the body, than the marked individuality usually presented. This lack of common features, while it imparts to each case a particular interest, also renders the deduction of general results from a number of them, as a

basis of treatment for future ones, a matter of much uncertainty and difficulty. On the other hand, the study of a number of cases, guided by the peculiar features and the accumulation thus of a store of individual points, is to make the best use of the material at command. Every addition to this store is worthy of consideration.

The following cases, with the exception of the last, which occurred in private practice, were treated in St. Vincent's Hospital, New York, during the writer's residence as house surgeon. The report is made from notes taken at the time by Drs. W. H. Owens and J. F. Luby. The first fourteen were admitted during the service of Dr. Charles Phelps, and the succeeding five during that of Professor J. L. Little, as attending surgeons, through whose courtesy they are published.

Case 1. *Compound fracture of vault of skull, and incised wounds of scalp; operation; recovery.*—T. M., ice-man, æt. 28, was admitted April 7, 1880, having been struck several times on the head with an ice-axe. He was weak from hæmorrhage, but presented no evidence of intracranial lesion. There were three large incised wounds of the scalp. In one, two and one-half inches above the right ear, a raised edge of bone was discovered. This was movable, and was found to be a chip of the external table, one inch by one-half inch. Treatment: The fragment was removed and the bottom of the fissure sought by means of trephine and gouge. It was found not to penetrate the entire thickness of the skull. This wound was dressed with carbolized oil, and the others closed with sutures. An ice-bag was applied continuously for twenty-three days, in connection with the use of bromide of potassium, light diet, and laxatives when necessary. May 22, forty-five days after injury, he was discharged, cured.

Case 2. *Extensive fracture of vault, and probable fracture of base of skull; operation; recovery; sequelæ.*—A. M., boy, æt. 5, was admitted April 7, 1880, his mother, while carrying him, having fallen down stairs. He was in a state of coma, and suffering from shock. There was a large scalp tumor on right side of the head, the right pupil was dilated and fixed, while the left was contracted, and there was hæmorrhage from the right ear. Patient breathed without stertor. Treatment: Exploratory

incision in scalp tumor revealed a fissure having its edges depressed, extending from near the vertex, downward into right temporal fossa, where it could not be followed. The rongeur was used to cut away the depressed edges. In this, as in a majority of cases, the use of the trephine was unnecessary, the removal of an edge of bone and subsequent application of the elevator accomplishing the result sought. The dura mater was exposed for a space of two and one-half by three-quarter inches, and proved to be uninjured. The edges of the bone were carefully smoothed, the wound dressed with carbolized gauze and carbolic acid, and an ice-bag applied. Stimulants were administered hypodermically, and later by the mouth, ℥ j every hour. The patient gradually rallied. For several weeks the right pupil continued dilated, and marked right hemiplegia—same side as injury was present. The administration of stimulants, iron and quinine, was necessary, bromide of potassium and the ice-bag being used to control cerebral activity. The wound granulated and healed without difficulty. There was present at any time only moderate fever. Discharged August 28, cured. Sequelæ: Shortly prior to discharge, the patient was noticed to have difficulty in expressing his thoughts, which was attributed to his youth. One month after leaving the hospital he had become remarkably weaker in intellect, the right pupil remained slightly dilated, and the hemiplegia had disappeared.

Case 3. *Fracture of vault and base of skull; operation; death; autopsy.*—A. C., male, æt. 27, was admitted April 10, 1880, having fallen thirty feet, striking his head upon a ship's deck. He was in a state of profound coma, having stertor, dilatation of right pupil, hæmorrhage from right ear and both nostrils, ecchymosis surrounding both eyes, and a large scalp tumor upon right side. He had had a marked convulsion prior to admission. Treatment: An exploratory incision revealed a fracture of frontal bones surrounding depressed fragments. The fissure extended into temporal fossa. The trephine and rongeur were used to remove the depressed bone and rough edges for about two inches of the length of the fissure. The dura mater was found distended, and was punctured, when a large quantity of blood escaped. There appeared no injury to the brain. The wound

was dressed with carbolized oil. After the operation there was considerable twitching of both sides of body, especially the right, but no marked convulsion. Without recovering consciousness, on the following day the patient died. Autopsy showed a fissure extending from right frontal eminence into temporal fossa, and thence into the base. Both orbital plates and right middle fossa of the base were fractured. A large surface clot covered the right side of the brain.

Case 4. *Contused wound of forehead; meningitis; death; autopsy.*—C. M., boy, æt. 6, was admitted May 8, 1880, one week previously having been kicked in the forehead by a horse. He had suffered from headache, and for two or three days before admission had been lethargic. On admission he was semi-comatose, with very feeble pulse, rigidity of muscles of neck and back, contracted pupils, and marked fever. On the left side of the forehead was a small contused wound, nearly healed, covering a circumscribed induration of periosteum. Treatment: Stimulants and ice-bag to head. Twenty-four hours after admission, patient died. Autopsy showed well-marked subacute meningitis, extending from immediately beneath point of injury as a center.

Case 5. *Fracture of base and vault of skull, inferior maxilla and both radii; meningitis supervening after an interval of three weeks; death; autopsy.*—H. B., errand boy, æt. 14, was admitted May 13, 1880, having fallen fifteen feet to the floor, striking upon his face and outstretched hands. He was suffering from shock, and lay motionless, without stertor, unless disturbed, when he manifested hyperæsthesia and active delirium. The left side of the face was contused, and ecchymosis surrounded both eyes. He had slight hæmorrhage from both nostrils, none from ears, and no subconjunctival hæmorrhage. There was no paralysis, but the delirium gradually became constant and violent, requiring restraint. A careful examination revealed no local evidence of fracture of the vault. Both radii were fractured three-quarters of an inch from the distal extremities, with the characteristic silver-fork deformity. The inferior maxilla was fractured between the first and second left incisors. A fracture of the base was suspected from the above symptoms. Treatment: Bromide of potassium, ice-bag to head, cold applications to face, four-

tailed bandage for fractured jaw, and splints, not including the wrist joints for fractured radii. Within twenty-four hours the delirium disappeared. The patient was now rational, and had only slight headache. This disappeared on the succeeding day, and he was then entirely free from any symptoms of cerebral lesion, so that the diagnosis of the fracture of the base was now abandoned. On the third day after admission a small swelling, like a bruise, was observed at the upper edge of the left side of the forehead. An opening was made, and a careful search with the probe revealed nothing. The patient was now allowed to get up. His pulse, respiration and temperature were normal, his appetite good, his sleep natural, and the special senses undisturbed. About two weeks after admission, a small, hard point, like a shot under the skin, was discovered adherent to the bone over the right eye. It was painless, and supposed to be old. The patient continued to enjoy good general health and entire absence of cerebral symptoms until June 5, twenty-three days after the injury. At this time, without ascertainable cause, he had headache, followed by chill, nausea, vomiting and delirium. P. 92, R. 42, T. $102\frac{3}{5}°$. Diagnosis, acute meningitis. Treatment: Ice-bag, bromide of potassium in full doses and leeches behind ear. On the following day the above symptoms, especially the delirium, had markedly increased. The pupils became contracted, opisthotonos supervened. P. 120, R. 34, T. $105\frac{1}{5}°$. On the next, the twenty-sixth after the injury, symptoms of compression occurred, and the patient died. Autopsy revealed extensive fracture of base and vault of skull. From the juncture of the saggittal and coronal sutures a fissure could be traced forward, in the median line to the base of the skull, thence through the cribriform plate of the ethmoid, to the left of the crista galli, and through the body of the sphenoid. About one and one-half inches above the root of the nose, a branch fissure was given off, which passed obliquely downward and to the left, to the outer side of the orbit, and thence through the orbital plate. This fracture was not discovered by the probe during life, because the opening had been made nearer the median line. The nodule noticed was found to be an exostosis upon the edge of this fissure, just above the frontal sinus. Both orbital plates

were fractured in many directions. Little or no effort at union appeared. The membranes were found engorged, thickened, and covered with flakes of purulent lymph. The meningitis had been general, and had apparently originated in the left anterior fossa of the base.

Case 6. Fracture of base of skull; large surface clot; death; autopsy.—G. R., butcher, æt. 40, was admitted June 4, 1880, having fallen a distance of thirty feet to the sidewalk. He was semi-comatose and delirious, with a rapid and feeble pulse, and slight stertor. The left side of the face was much contused, and over the left eye was a contused wound. Patient soon became profoundly comatose, with all the symptoms of cerebral compression, and died in three-quarters of an hour after admission. Autopsy disclosed fracture of left orbital plate, and large surface clot within the dura mater, on the right side.

Case 7. Depressed fracture of vault; operation; death; autopsy.—L. Z., female, æt. 17 months, was admitted June 6, 1880, having fallen about thirty feet to the ground. She was in a state of coma, approaching collapse, with dilatation of both pupils and stertor. A large scalp tumor occupied the left side of the head. Treatment: An exploratory incision was made, which revealed a depressed fracture, extending from the anterior fontanelle forward to the left frontal eminence, and backward along the saggittal suture to the posterior fontanelle. The edges of the frontal portions were much depressed. These were removed with the rongeur. Stimulants were administered. Patient subsequently showed less marked symptoms of compression, but did not rally, and in seven hours after admission died. Autopsy showed fracture, as above, and extending backward into occipital bone. The brain showed no lesion, and death had apparently been caused by shock.

Case 8. Compound fracture of vault of skull and laceration of eyeball; recovery.—D. G., housekeeper, æt. 40, was admitted June 14, 1880, having been struck in the face with a heavy iron vessel. Her general condition was good, and there was no evidence of injury to the contents of the skull. The left eyeball was lacerated, causing a total loss of function. A contused wound over this eye communicated with an undepressed fracture

into frontal sinus, and upward in the frontal bone. Treatment: Cold water dressing and rest in bed. July 17, thirty-three days after the injury, the wound had entirely closed, and the patient was discharged.

Case 9. *Concussion of brain and fracture of inferior maxilla; continued cerebral symptoms; recovery.*—M. P., expressman, æt. 30, was admitted June 17, 1880, having been kicked in the face by a horse. He was unconscious, but could be aroused. The pulse was feeble, pupils even and responding to light, the right being more sensitive. The right side of the face was much contused, and the inferior maxilla fractured upon the right side near the angle. Treatment: Quiet. On the following day, ice-bag and bromide of potassium. Patient did not recover his mental faculties, but continued in a state of semi-consciousness, with occasional low delirium, resembling the typhoid state. Constipation was marked, and difficult to overcome. It was finally suspected that the use of the ice-bag and bromide contributed to this condition of affairs. On July 9 these were suspended, with good effect. The delirium diminished, the patient gradually became rational, and on July 18, thirty days after the injury, was discharged, cured.

Case 10. *Compound fracture of vault of skull; strumous cachexia; recovery.*—J. R., shoemaker, æt. 52, was admitted June 18, 1880, having been struck on the head with a heavy drinking glass. He had angular curvature of the spine, with strumous cachexia, and very feeble constitution. Upon the face and scalp were a number of contused wounds, one, over left eye, leaping to an irregular, undepressed fracture of frontal bone, extending up to the frontal eminence. There were no symptoms of intracranial lesion. Treatment: Ice-bag, bromide of potassium and rest. Later, in consequence of the general bad condition, the administration of iron, qninia, and large amount of stimulants was found necessary. August 25 he was discharged, cured.

Cash 11. *Compound depressed fracture of vault of skull with laceration of membranes and brain; operation; hernia cerebri; death; autopsy.* J. J., school-boy, æt. 10, was admitted June 18, 1880, having received a heavy blow with a cart-rung.

Although suffering somewhat from concussion, he was able to talk intelligently and had no symptoms of compression of the brain. Above and exterior to the left frontal eminence was a contused wound communicating with a depressed fracture of the skull. The patient was irritable and even violent when the wound was approached. Treatment: It was necessary to administer ether, as the patient was otherwise uncontrollable. The fracture was found to be saucer-shaped, one inch in diameter, having its center depressed about one-fourth of an inch. The sharp edge of a fragment had pierced the membranes and penetrated into the brain, making a wound one-half inch long. The fragments were removed and the rough edges cut away with the rongeur. Carbolized cold water dressing and an ice-bag were applied, and bromide of potassium (gr. v, ev. 2 hrs., varied p. r. n.) administered. P. 120, R. 32, T. 104°. In a few days the brain began to protrude through the opening in the membranes. The protruded mass gradually increased in size, sloughed, and was accompanied by high fever. Light compresses were applied with a view of controlling the hernia, but their application was followed by convulsions and the attempt was abandoned. Two weeks after the injury the mass had reached the size of a hen's egg, was very fetid, and was discharging large clots of disintegrated brain tissue. Up to this time the patient had retained perfect intelligence, but was exceedingly irritable. Tonics and small quantities of stimulants were administered. The protruded mass was supposed to contain an abscess, and punctures were made into it. These were found to be perfectly painless, however deep, while the surrounding membrane was acutely sensitive. Sixteen days after admission, twitching of the face and the right upper extremity were manifested. Two days later, one or two slight convulsions, more marked on the right side, occurred. Hæmorrhage from the mass now supervened and continued until July 7, nineteen days after the injury, when the patient died. Intelligence was retained until twenty-four hours before death. Autopsy: The body was much emaciated, and all the internal organs found to be very anæmic. The membranes were adherent to the brain all over the left hemisphere. This hemisphere was

almost entirely softened and disintegrated. The right hemisphere and the base appeared normal.

Case 12. *Compound fracture of vault of skull; recovery.*—M. M., laborer, æt. 28, was admitted June 24, 1880, having been struck on left side of head and face with a heavy carving knife. The wound communicated with an undepressed fissure extending backward from just behind the left mastoid process. He had no symptoms of intra-cranial lesion. Treatment: Cold water dressing was applied, bromide of potassium administered, with a cathartic when necessary. July 30—thirty-six days after injury, he was discharged cured.

Case 13. *Compound fracture of vault and base of skull with laceration of brain; death; autopsy.*—M. R., longshoreman, æt. 29, was admitted July 6, 1880. A heavy iron hook, swinging from a derrick, had torn its way through the anterior part of the skull. The patient was unconscious, and had dilatation of both pupils and a rapid and feeble pulse. He had had one convulsion before and one after admission. An irregular lacerated wound, about two inches in length, extended across the forehead and presented commingled fragments of bone and brain tissue. A triangular piece of bone an inch in diameter was deeply imbedded in the brain. There was considerable hæmorrhage from the longitudinal sinus. Treatment: The fragments of bone were removed with the fingers and forceps. Stimulants were given p. r. n. The patient did not rally, the hæmorrhage continued, considerable brain tissue came away, and on July 8, two days after the injury, the patient died. Autopsy: A little to the left of the median line of the frontal bone was an opening one by two inches. From the junction of the sagittal and coronal sutures, two fissures were found to extend; one in the median line along the edge of the above opening, thence into the base of the skull, passing through the ethmoid; the second obliquely forward and to the left to the base, where it passed into the orbital plate at its outer part. The left side of the frontal bone, thus included and containing the opening, was attached to the base by only a small portion, and was elevated about one-eighth inch. At the right parietal eminence was a depressed fracture, the inner table

being much splintered. The membranes and brain at the site of each fracture were extensively lacerated.

Case 14. *Fracture of vault and base of skull and inferior maxilla; operation; hernia cerebri; death; autopsy.*—W. S., driver, æt. 17, was admitted July 28, 1880. He had fallen thirty feet, striking his head upon a board floor. He was semi-conscious, and manifested active delirium when disturbed. Ecchymosis surrounding both eyes was so extensive that the pupils could not be seen. He had no stertor nor paralysis. The pulse was rapid and very feeble. Over left frontal eminence was a large scalp tumor. There was a profuse hæmorrhage from both nostrils and free escape of cerebro-spinal fluid from the left ear. The inferior maxilla was fractured between the first and second left incisors, and the right middle metacarpal bone was fractured. Treatment: Stimulants were administered hypodermically and by the mouth. On the following day the patient had rallied considerably. Ether was administered because of the excessive irritability, and an exploratory incision made into the scalp tumor. A comminuted, depressed fracture was found and several large fragments of bone removed. The rough edges were cut away with the rongeur, the use of the trephine being found unnecessary. The dura mater was found to be contused and distended. It was pierced but no blood escaped at the time. The wound was dressed with lint and carbolic acid, and an ice-bag was applied. Stimulants were ordered p. r. n., and bromide of potassium in full doses. The condition of the patient—semi-conscious, except when disturbed, then violently delirious—continued, with the addition of high fever; on the third day the temperature rising to 108°. The cerebro-spinal fluid continued to escape freely from the ear, and some oozing of dark blood with slight protrusion of brain occurred from the wound. On August 1, the fourth day after the injury, he died. Autopsy: A fissure was found extending from the opening at left frontal eminence across the median line to right supra-orbital foramen. A second was traced from left supra-orbital foramen backward across anterior and middle fossæ, and through the petrous portion of the temporal bone. The body of the sphenoid, and the cribriform plate of the ethmoid were fractured, and both orbital plates comminuted. The

membranes were adherent and thickened, and showed inflammatory changes. These were more marked near the opening, at which place the brain was disintegrated.

Case 15. *Surface-clot aud urœmia; death; autopsy.*—M. P., housekeeper, æt. 48, was admitted August 9, 1880. About twenty-four hours previous, while supposed to be intoxicated, she had fallen and struck her head against a door. She had been unconscious since that time. No history of convulsions could be obtained. On admission the patient was in a state of profound coma. She had dilatation and immobility of right pupil, and a feeble pulse of 112. Over the left side of forehead was a large scalp tumor, and over right a contused wound. There were present œdema of extremities and albuminuria. Exploration of scalp tumor and wound revealed no fracture. Treatment: Mustard was applied over the kidneys, and elaterium and jaborandi administered. In eighteen hours after admission patient died. Autopsy: A large clot was found on right side between dura mater and skull. There were signs of an old meningitis. The abdomen was not examined.

Case 16. *Fracture of vault and base of skull; surface-clot; death; autopsy.*—G. M., boy, æt. 4, was admitted August 26, 1880, having fallen about fifteen feet to the flagging, striking upon his head. He was in a state of profound coma, with cold extremities and feeble pulse. There were present dilatation and immobility of the left pupil, hæmorrhage from the left ear, and sero-sanguinolent discharge from the right. Ecchymosis surrounded the right eye. A large scalp tumor, through which a fracture could be felt, occupied the left side of the head. Treatment: Warm applications to extremities. Patient died in two hours after admission. Autopsy: A fissure about six inches in length was found extending from the left temporal fossa backward and inward to a point three inches above occipital protuberance. The middle fossa of the base on the right side was fractured. A large surface-clot was found within the arachnoid upon the left side.

Case 17. *Fracture of vault and base of skull; surface-clot; death; autopsy.*—C. C., laborer, æt. 40, was admitted September 16, 1880. No history of the manner of his injury was obtain-

ator. He was in a state of coma, had a slow, full pulse, and stertorous respiration. The left pupil was contracted, the right dilated. He had marked twitching of right side of the body. Over left eye and behind right ear were contused wounds, while the left eye was ecchymosed. Treatment: Ice-bag was applied and perfect quiet maintained. Carbolized dressings were applied to the wounds. On the following day the patient manifested evidences of returning consciousness, but died on the second day after admission. Autopsy: A fracture was found extending from one and one-half inches above right mastoid process downward and backward nearly to the foramen magnum; also a second through right greater wing of the sphenoid. A surface-clot within the arachnoid was found upon the anterior portion of each hemisphere, that upon the right being the larger.

Case 18. *Fracture of base of skull; surface-clot; death; autopsy.*—E. S., housekeeper, æt. 40, was admitted September 18, 1880, having fallen forty feet upon her head. She was unconscious, the pulse was slow and feeble, both pupils were dilated and fixed, and there were present slight stertor and hæmorrhage from the mouth. External to the right frontal eminence was a large scalp tumor. There was no hæmorrhage from the ear. Patient died in twenty minutes after admission. Autopsy: A fracture was found on the right side of the base, extending from the middle fossa through the petrous portion of the temporal bone into posterior fossa; also a short fissure into the foramen magnum, and one through sella turcia. A large clot within the arachnoid occupied the right side.

Case 19. *Fracture of vault of skull, and laceration of base of brain; surface clot; death*; *autopsy.*—P. O., laborer, æt. 40, was admitted September 20, 1880. A brick had fallen upon his head from a height of forty feet. He was conscious, but slightly incoherent and irritable. He then had severe headache, but no other evidence of intra-cranial lesion. To the right of the vertex was a contused wound communicating with an undepressed fissure. Shortly after admission patient became violently delirous, requiring restraint. Treatment: Sulphate of morphia gr. 1-6, hypodermically. The wound was dressed with borated cotton and carbolic acid, an ice-bag applied, and bromide of potassium ad-

ministered. The patient soon became more quiet. The left pupil was observed to become markedly dilated, the right remaining normal. A few hours later the left had become contracted. Four or five hours after admission the patient had become lethargic, but was violent upon being disturbed. On the following day well marked symptoms of cerebral compression, stertor, slow and full pulse, coma and dilatation of the left pupil supervened. On the second day after the injury these symptoms continued, the temperature rose to 105 2-5°, and the patient died. Autopsy: The fissure extended from the vertex downward, forward and to the right, to the center of middle fossa on the right side of the base. At this point the base of the brain was slightly lacerated, and presented evidence of local inflammation. A clot of blood, six by four inches, external to the dura mater, had caused marked flattening of the convex surface of the left side of the brain.

Case 20. *Compound fracture of vault; recovery; sequelæ.*—J. R., glassworker, æt. 14, was first seen November 5, 1880. Three days previous he had received a blow on the head from a brick. He became immediately unconscious, but in a short time was able to walk to his home. On the second day after the injury he had severe headache and symptoms of constitutional disturbance. On the following day, when first seen, he had had two well marked convulsions. When six years old the patient had fallen upon the back of his head. This was succeeded by occasional convulsions for six months, since which time he has had none up to the present. Upon examination he was found to have severe pain in the head at the point of injury, hebetude and intolerance of light and sound. The pupils were slightly contracted, equal and responded to light. The pulse was 112, temperature 102 2-5°. The bowels were constipated. A contused wound of the scalp was found just anterior and internal to the right parietal eminence, at the bottom of which was the juncture of three fissures of the skull. One extended downward and forward, one downward and backward, and the third inward and slightly forward. The periosteum had been removed for a small space. Treatment: The wound having been enlarged, a difference of level of half the thickness of the bone was found between the edges of the fissures. Elevation was urged, but under

advice was not attempted. The wound was dressed with cold water and an ice-bag applied. Perfect quiet in darkened room, with liquid, unstimulating diet, bromide of potassium, gr. x, every two hours, and a saline cathartic were ordered. The convulsions did not recur; two days later the temperature and pulse became normal, and only occasional slight headache occurred. The bromide, in gradually reduced amount, and the ice-bag were continued for nearly six weeks. The patient was then allowed to get up. On December 22, nearly seven weeks after the injury, a piece of dead bone three-quarters by one-eighth of an inch was removed, and the wound healed without difficulty. Sequelæ: About two months later patient began to experience severe general headache, and became very susceptible to noise, and irritable. He was anæmic. Treatment: Syrup of the iodide of iron, gtt. xv, three times a day, and avoidance of exciting causes. A month later the symptoms had not perceptibly abated.

Some points of interest may be found in each of the foregoing cases. It is evident that these are, individually, of more practical importance than any deductions and inferences to be drawn from tabulating them as a whole. This would be equally true were the series many times as large. It would appear that the difference in plans of treatment advised by high authorities has had its origin in the ignoring of this very fact, and in deciding, in general, questions which can only be properly settled upon the merits of each particular case.

There is one measure, frequently neglected, which cannot be too strongly urged—namely, that all suspicious tumors of the scalp be incised, and the underlying skull carefully explored for a fracture. Should none exist, that fact is important. Should one be found, the proper treatment and probable result may then be intelligently considered. The addition of a clean scalp wound is a trifling consideration. The question of operation upon the skull frequently presents itself as a problem difficult of solution. The history of the case, the condition of the skull externally and the symptoms which denote its condition internally, may be considered the three factors which are distinct in each case, while the following well-known truths may represent the constant quantities in the solution of this problem:

1. Injuries to the head are serious not in proportion to the amount of damage suffered by the skull, but more nearly to that experienced by its contents.

2. The injury to the intra-cranial tissues may be produced by the same force, at the same time as that of the skull, as rupture of a vessel by the same force that causes a fracture.

3. The injury may be a consequence of that of the bone, as, primarily, laceration or compression of the membranes and brain by a fragment of bone; secondarily, by the intervention of inflammatory processes, as meningitis caused by an irritation from abnormal conditions of bone.

4. It may be partly concomitant with that of the bone, and partly caused by it, with or without the intervention of inflammatory action.

5. It may occur without any injury to the skull, as intra-cranial hæmorrhage or meningitis following a blow upon the head.

It is evident that any general plan of treatment must be based upon these constant factors alone, and therefore cannot be applied indiscriminately. But these factors furnish, however, some important conclusions. From the first of them follows, as a necessary consequence, an important consideration as to the gravity of operations upon the head.

For, as force is only dangerous in proportion as it is expended upon the contents of the skull, the careful removal of bone without infliction of injury upon these contents cannot be a very hazardous proceeding.

From the third and fourth it is equally evident that, since the abnormal condition of the bone is so great a factor in determining intra-cranial, and therefore, dangerous lesions, the importance of its removal can hardly be over-estimated. As an irritant, its action may be delayed, but the natural forces cannot remove it. The best they can do is to round it off and render it as innocent as may be, and this is only accomplished by the very process so important to avoid—that of inflammation. With reference to waiting, in hope that subsequent events may prove operative measures unnecessary, there is this to be considered: That should any abnormal conditions threatening the contents of the skull exist, not only is the case compromised by a prolonged sub-

jection to the injury, but that any operative measure in proximity to inflamed meninges is quite different in its tendency from the same measure near parts in a healthy state. The possibility, further, of a recovery without operation, and subsequent difficulty from injured bone, as illustrated in cases 5 and 20, should not be ignored.

The question of resection of the skull, with or without the trephine, may, then, be called into consideration on account of the conditions of the bone itself, as above, or to relieve symptoms not caused by the bone, as to furnish an exit for blood or inflammatory products. Although too much emphasis cannot be laid upon the importance of avoiding generalities, and upon deciding each step upon the merits of the particular case under treatment, the conclusion seems a fair one that true conservatism is not that which waits to see what nature can do when hard pressed, but that which disregards the skull when its contents are to be considered, and which, when possible, removes a cause of harm before it has had time to effect any damage.

A proportion of cases where the propriety of operation is *sub judice* are those presenting a combination of injuries, as, for example, a fracture of vault and probable fracture of base. Where respect for record as an operator enters, that frequently decides the matter. But leaving this aside—as may be easily done in theory—it often becomes a choice of subtracting, or not, from the sum total of the patient's disabilities those possible to be removed. It would appear as though the fact of a case being considered "hopeless" would simplify the matter; for surely a hopeless case cannot be injured.

The only post-mortem results which indicate an operation upon the skull to have been improper, are those which show it to have been an active element in causing death which would not have been caused by the conditions calling for the operation. These results are rarely found.—*Annals of the N. Y. Surgical Society.*

CLINICAL LECTURE ON THE ANTIPYRETIC TREATMENT OF TYPHOID FEVER BY BATHS, SPONGING THE BODY, AND THE WET SHEET, delivered at Bellevue Hospital, by AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in Bellevue Hospital Medical College, New York.

GENTLEMEN :—As introductory to the subject of this lecture, I ask to be indulged in giving some personal reminiscences. More than thirty years ago my interest was enlisted in the clinical study of the continued fevers. This was not long after the publication, in this country, of the translation by Bowditch of the great work of Louis, containing researches which established the clinical history of the typhoid fever in France, of that day, and not less of the typhoid fever of to-day in all countries. The observations by Gerhard, Shattuck, and others had recently been published, showing that typhus fever, as existing in Ireland, and as imported into this country, was a species of fever distinct from the typhoid fever studied by Louis. It was a mooted question at that time whether typhus and typhoid fever were varieties of one species of fever, or essentially different diseases. This question elicited much discussion at the annual meeting of the New York State Medical Society in 1850, and a committee was appointed, of which I was made chairman, to collect facts relating to the question. I was in this way led to study analytically, following the numerical method of Louis, all the cases of continued fever which, up to that time, I had recorded. The number of cases amounted to fifty-two. The results of the analytical study of those cases were embodied in a report. In 1851 I had collected the recorded histories of forty-eight additional cases of typhus and typhoid fever. I subjected these cases to an analytical study, and embodied the results in a second report. Again, in 1852, I studied in the same manner sixty-four cases of typhoid and typhus fever, which I had recorded since 1851, and the results were embodied in a third report. The whole number of cases analyzed thus were one hundred and sixty-four.

One advantage in studying these three collections of cases

separately was, the results obtained from the collections severally could be brought into comparison with each other. The three reports were published in a volume in 1852. I may be permitted to refer to this volume for several reasons. It was my first-born of a bibliographical brood, which has since become somewhat numerous. It is not in a condition now to speak much for itself, as it has long been out of print. The edition was small, and, moreover, the volume was printed for the author, having only a nominal publisher, so that it never had a fair chance for much circulation. But it represents the employment of most of my leisure hours for a period of three years. Aside from the personal benefit derived from the studies, compensation for the labor was found in a remarkable correspondence with the results of Louis' researches as regards the clinical history of typhoid fever —a correspondence corroborating the accuracy of his researches, and going to show that the disease retains its historical characteristics in different countries and at different periods. I began the analytical studies with belief in the identity of typhus and typhoid fevers, but the studies converted me to the opposite opinion, and this opinion is now held by most, if not all, medical writers. In collecting my histories, I stumbled upon a number of cases of relapsing fever, and these were the only cases of this disease which, up to that time, had been reported in this country, except some recorded by Clymer, in 1846.

My subject to-day is the treatment of cases of typhoid fever by the antipyretic employment of cold water. I may mention the fact that, in my second report, I studied the effects of the wet-pack in five cases. By the "wet-pack" I mean enveloping the body in a wet sheet, and over it dry blankets, after the method of the so-called hydropathists of that time. This measure cannot act by the direct abstraction of heat; but it is entitled to be called an "antipyretic measure," for it is often followed by a considerable reduction of temperature. As such, it deserves more consideration than it appears to have received. Within late years I have known it to prove signally useful in many cases of febrile disease. When my reports were written, the thermometer had not come into clinical use, the intensity of fever being estimated by the subjective symptoms together with the sensation of

heat communicated to the hand applied to the skin. The effect of the wet-pack, in my cases, was excellent; but I was deterred from continuing my observations by the occurrence of apoplectic coma in a case in which this measure had been employed with very marked immediate benefit. There was no ground for supposing that the treatment had anything to do with the occurrence of the coma; but, as a measure was then a novelty in medical practice, I considered that I would be held responsible for any accidents that might subsequently take place.

The following quotation from my second report expresses my ideas of the value of external refrigerating treatment at that time: "The direct effect of an increased disengagement of caloric, it is not improbable, may contribute to some of the evils of the febrile state. The most effective refrigerating measures, which possess much potency, are external applications, and these are *cold water* and *cool air*. Ablutions with cold water are usually grateful to the sensations of patients affected with fever, and abate, frequently in a striking manner, the increased heat and dryness. The simplicity of the measure causes it to be lightly esteemed by attendants, and sometimes, perhaps, by physicians. It is really an important part of the treatment of a large proportion of fever cases. The face, body and extremities may be sponged, in succession, several times a day, or as often as the heat and dryness of the surface return. A faithful, judicious nurse may occupy a considerable portion of the time with these ablutions to the advantage of the patient. Should cold water occasion uncomfortable sensations (which is rarely the case), tepid or even warm water will secure, by evaporation, part of the refrigerating effect. The evaporation will be more rapid if spirit be added to the water. Cologne, or other perfumed spirits, may be employed for this purpose. Cold water, taken into the stomach, exerts a refrigerating effect on the skin and the system at large. Patients should be allowed to drink freely. The refrigerating effect of cool air is important. This is one of the useful ends of free ventilation. To secure this end, the patient should be lightly covered, and ventilation between the bed-clothes attended to." These views, published thirty years ago, foreshadowed those which at this moment hold the most prominent place in the treatment of fever.

Since the commencement of the session (1881–82), we have treated in this hospital [Bellevue] several cases of typhoid fever. In all the cases, except some in which the temperature of the body did not rise above 103° F., the reliance has been mainly on antipyretic measures, together with those of palliation and support. Antipyretic measures have been for several years mainly relied upon in treating the cases of this disease which have been received in the medical division of the hospital with which I am connected. The number of cases treated antipyretically is not large, being only fifteen.* These cases, however, have been observed closely, and the histories recorded with much painstaking on the part of the members of the house-staff who have had the cases in charge. During the whole, or the greater part, of the course of the disease, the temperature and the pulse have been noted every hour or two of the twenty-four hours in most of the cases. I propose, in this lecture, to give the results of the analytical study of these cases. I shall not challenge your patience by reading the histories. To do this would be intolerably tedious. From the histories I shall select the facts bearing on the following points of inquiry: (1.) The different modes of employing, externally, cold water, and the general rules observed in their employment. (2.) The antipyretic effect obtained, the time required, the duration of the effect, and the repetitions of the different modes of employing cold water for the reduction of temperature. (3.) The mortality and the duration of the disease in these cases. (4.) The employment of quinia as an antipyretic remedy in these cases. (5.) The employment of alcoholics. (6.) The dietetic treatment and the medicinal remedies employed.

1. *The different modes of employing externally cold water, and the general rules observed in their employment.*—In a few cases the cold bath was employed, that is, the patients were placed in a bathing-tub, in water of a temperature of 80° F., and the temperature reduced by the introduction of ice to about 65° F. This mode may be called, for the sake of distinction, the ice bath. It was soon discontinued on account of the inconveniences attending it, and it was not resumed because the employment of

* It was subsequently ascertained that two additional cases had been overlooked.

other modes appeared to secure all its advantages. The other modes were the sponge bath and the wet sheet with sprinkling. The sponge bath was often found to be notably effective. To obtain the utmost efficiency of this mode, the whole body exposed to the air is sponged with cold water, and the sponging continued steadily for a considerable time. As will be seen presently, the temperature of the body may, in many instances, be satisfactorily reduced by this mode. The wet sheet, however, is more effective. In carrying out efficiently the latter, the body is wrapped in a wet sheet, and sprinkling with water from a watering-pot, repeated at intervals of a few moments. The patient need not be removed from the bed if it be protected by a sufficiently large India-rubber cloth, but the cot known as "Kibbe's cot" is to be preferred. An ordinary cot-bedstead answers, however, very well. This mode of refrigeration is vastly more convenient than the bath-tub; it can be better regulated as regards the degree of cold, the duration of its employment, etc.; it is less likely to prove hurtful, and it may be made equally efficient. In most of the cases the sponge bath and the wet sheet were employed at different times during the progress of the disease.

The general rule with regard to the employment of these modes was to resort to one of them whenever the axillary temperature exceeded 103° F., and to continue it until the temperature was reduced to at least 102°. The temperature during the continuance of the employment of cold is, of course, to be taken in either the mouth or the rectum. The symptoms, aside from the temperature, were noted, and if at any time the pulse became feeble, the respiration disturbed, or the lips livid, the measure was at once discontinued. Alcoholics were often given during the continuance of the sponging or of the wet sheet with sprinkling. It will be seen that the wet sheet, in many instances, was continued for many consecutive hours.

2. *The antipyretic effect obtained, the time required, the duration of the effect, and the repetitions of the different modes of employing cold water for the reduction of temperature.*—In order to present as succinctly as possible the facts pertaining to these points of inquiry, which are contained in the histories of the cases everally, I have arranged them in a tabular form, and they will

appear in a paper which I am preparing for publication in *The Medical News*.

I have found, on comparing these tables in respect of the number of repetitions of the employment of cold during the course of the disease, that they present notable differences. The number of ice baths given in all the cases was five, of sponge baths 129, and of the applications of the wet sheet 64; the total number being 207; the number of repetitions of the sponge bath in one case not having been fully noted. Excluding the four fatal cases, the lowest number in any case was three, the sponge bath having been employed once and the wet sheet twice in this case. In the case offering the next lowest number, four sponge baths were given; the highest number was 51, the ice bath having been employed five times and the sponge bath 46 times in this case. The next highest number was 18, this number of sponge baths having been employed. Now, the question arises, did the employment of cold in any of the cases have an agency in preventing permanently a rise of temperature, which would have occurred had cold not been employed? I think we may answer this question affirmatively; but much allowance is to be made for the differences to be observed in different cases of typhoid fever in the degree of fever-heat, irrespective of any treatment. Cases are not infrequent in which the temperature never rises above 103°. If, however, the temperature for a short time rises to 104° or 105°, and, after the employment of cold three or four times only, there is no further rise to 103°, it seems fair to attribute a certain amount of agency to the antipyretic treatment in preventing a subsequent degree of fever sufficient to call for a repetition of the treatment.

Notable differences in respect of the length of time required to produce an antipyretic effect are to be observed. The effect was produced by the ice bath in 30 minutes, by the wet sheet in 25 minutes, and by the sponge bath in 20 minutes. These were the shortest periods required; the longest were 20, 11, and 10 hours. Between these extremes, the length of time in the different cases varied much. This was true not alone in different cases, but at different times in the same case. It is evident that there are no known laws regulating the length of time required to produce an antipyretic effect. No judgment can be formed beforehand as

regards this point; it can only be determined by experimental observation, and the result of the antipyretic treatment on one day is not to be relied upon in judging of the probable effect on other days during the course of the disease.

The statements just made respecting the length of time required to produce an antipyretic effect by the employment of cold, apply still more strongly to the production of this effect. Looking over the figures in the column devoted to this heading, it is found that variations were great. For example, in one case the consecutive durations are ten days, one hour, 48 hours, and 24 hours. In another case consecutive durations are two hours and a-half, 13, three, 20, and five hours. In another case, after consecutive durations of six, 15 and eight hours, the temperature before the last of these periods being 104°, there was no future rise to 103°. There is no approach to such a regularity in the successive periods during which the antipyretic effect continues as to point to any appreciable law. After the reduction of temperature has been effected, the previous experience, even in the same case, furnishe little ground for predicting the length of time during which the temperature will remain reduced. Nor is it practicable to judge beforehand, from either the duration of the antipyretic effect or its degree, of the amount of the rise of temperature which wil take place. Nor, again, can any inference be drawn from the temperature which exists when cold is employed, whether or not hyperpyrexia will again occur.

In several instances a decline of temperature takes place after the discontinuance of the sponge bath or the wet sheet. The time during which the decline took place varied from 15 minutes to 15 hours. This fact was noted three times in one case, twice in two cases, and four times in one case. In one case the temperature was increased while the patient was in the wet sheet, reduction afterward taking place. So far as an inference is to be drawn from this collection of cases, it is not the rule, but the exception to the rule, for the temperature to decline after the discontinuance of either the sponge bath or the wet sheet.

It is not to be denied that the facts in these cases are not sufficient to test the relative value of the wet sheet and the sponge ath as contrasted with the ice bath. The latter was employe

only five times and in only two cases. In each instance the tem perature was promptly reduced. But there were instances in which the wet sheet and the sponge bath proved equally effective. The facts contained in the tables show that by means of the sponge bath a satisfactory antipyretic effect may be often obtained. This being the simplest mode and most easily employed, it may be first tried, and, if it fail, the wet sheet substituted. These two modes, singly or successively employed, will, as I believe, render unnecessary the use of the bath-tub. The wet sheet may be be made more or less efficient, according to circumstances, by sprinkling at longer or shorter intervals and by using water of different temperatures.

Finally, I would call attention to the fact that in no instance could any immediate harm be attributed to either of the three modes of the employment of cold. In no instance were there symptoms following their employment so closely as to indicate that the patient had suffered injury therefrom. As a rule, the reduction of temperature was accompanied by improvement in other symptoms. Patients sometimes complained of discomfort, but this probably arose from the reluctance to be disturbed rather than from any unpleasant effects attributable to the cold; oftener they expressed a sense of comfort during its employment.

The number of cases in this collection is not sufficient for testing the influence of the antipyretic measures of treatment on the fatality of typhoid fever. In this regard, however, they may be considered as having some value. Of the fifteen cases, death took place in four. Two cases of recovery, in which the same measures of treatment were employed, were overlooked prior to the completion of the analytical study of the fifteen cases. Adding the two additional cases, the fatality was four in seventeen cases. This fatality is not far from the average rate in collections of cases otherwise treated. So far as any deduction is warrantable, it may be said that the antipyretic measures neither increased nor diminished the fatality.

The duration of the disease in the cases ending in recovery was determinable with precision in nine cases. The shortest duration was nine and the longest twenty-seven days. The mean duration was seventeen and a half days. The latter is one day

and a half longer than the mean duration in forty-two cases analyzed by me thirty years ago. The commencement of the disease in the cases now and in those formerly analyzed was dated from the time of taking to the bed. In the cases now analyzed the fever was considered as having ended when the temperature had fallen to within the normal range, that is, from 98° to 99°.

It cannot be said that the mean duration in the cases now analyzed is evidence that the disease was shortened in its course by the antipyretic measures of treatment.

In the four fatal cases the shortest duration was fourteen and the longest thirty-four days. The mean duration was twenty-one and a quarter days. Post-mortem examinations were made in three of the four cases. In none of the three cases were grave complications found after death. Death took place in all by asthenia. In no case was there any ground for the belief that the antipyretic measures of treatment had any agency in the fatal termination.

3. *The use of Quinia as an Antipyretic Remedy.*—The sulphate of quinia was given in several instances, as an antipyretic remedy, in conjunction with the employment of cold. The instances are noted in the tables. How much effect may have been produced by the quinia in these instances cannot be determined with accuracy. Inasmuch, however, as the reduction of heat effected by the two was not greater or more rapid than often by cold alone, it is fair to conclude that the agency of the quinia was not great. In a few instances quinia was given for an antipyretic effect without being conjoined with cold. In one of these instances the temperature fell in eight hours from 103¼° to 102° after 30 grains of the sulphate of quinia. In another instance 20 grains were given, and two hours afterward 25 grains. In two hours after the last dose the temperature had fallen from 105° to 103¼°. In another instance 15 grains of the sulphate of quinia were given, the temperature being 104°. In five hours the temperature fell to 103¾°. Ten grains more were given, and in two hours the temperature was 102°. Ten grains more were given, and in two hours the temperature was 102¼°. A fourth dose of 10 grains was then given, and in four hours the temperature was 100½°. Ten grains three times were given on the fol-

lowing day, the temperature ranging from 100½° to 99°. These doses were continued during the next day, and the temperature rose to 102°. The patient was much cinchonized, and the remedy was discontinued. In another instance 20 grains of the sulphate of quinia were given, the temperature being 102¼°. In three hours the temperature had risen to 104°, and the wet sheet was then employed.

4. *The use of Alcoholics.*—In the treatment of these cases alcoholics were given to meet indications relating to the circulation. In some of the cases no alcoholics were given. The quantity given was regulated by the frequency and fullness of the pulse, and diminished intensity of the first sound of the heart as heard over the apex. Whisky was the form generally used.

5. *The Dietetic Treatment.*—The chief article of diet during the course of the disease was milk. From one quart to two quarts were given daily, lime water being added.

6. *The Medicinal Treatment, exclusive of Quinia.*—In some of the cases no drugs whatever were given. Those which were given, exclusive of quinia, had reference to the palliation of certain symptoms. Digitalis was given in some instances for its tonic effect upon the heart, and ammonia as a cardiac stimulant. Opium in small doses was sometimes given for diarrhœa. The medication was chiefly limited to these remedies:

From the study of these cases it may be concluded:

1. That by the employment of cold water externally in cases of typhoid fever, the temperature of the body may, after a variable time of the continuance of the employment, be reduced to 102° or lower.

2. After a period varying very much in different cases, and, also, at different times in the same case, the temperature, as a rule, again rises as high as, or higher than, before the reduction.

3. Repeating the employment of cold as often as the axillary temperature exceeds 103°, the number of repetitions required in different cases is extremely variable.

4. The sponge bath and the wet sheet with sprinkling may be employed to the exclusion of the bath-tub in the antipyretic treatment in cases of typhoid fever as well as of other febrile diseases.

5. These modes of employing cold water may be continued

sufficiently long for the reduction of temperature to 102° or lower, and repeated as often as may be required, without risk of any immediate injury, and the study of these cases furnishes no ground for supposing that a liability to complications or accidents is thereby increased.

6. Reduction of temperature by these modes as often as it rises, in the axilla, above 103°, improves the condition of the patient. The cases now studied do not afford proof either that the fatality of typhoid fever, or that its duration is thereby diminished. The study of these cases, however, renders it possible that this proof would be afforded by a larger collection of cases.

During the period that the cases now studied were treated, seven hospital cases were recorded in which antipyretic treatment was not employed. In most of these cases the temperature did not rise above 103°, and it was for this reason that the treatment was not employed. Of these seven cases three were fatal, but I need not say that it would be unfair to draw any deduction from the contrast as regards the proportionate number of fatal cases. It is well known that, in general, resistance, toleration, and recuperation are not as well exemplified within as outside of hospitals. Moreover, in cases of typhoid fever, patients are not admitted into hospital until some days after the commencement of the disease. The clinical test of therapeutical measures, as far as fatality is concerned, is therefore best afforded by the study of cases in private practice.

7. The results of the analysis of these cases, although not sustaining the statements of Leibermeister and others respecting the controlling influence of the employment of cold externally in cases of typhoid fever, yet not only show this method of antipyretic treatment to be safe, but afford encouragement to employ it with the expectation of diminishing the severity of the disease and its danger to life.—*Medical News.*

For Uremic Headache, with Deficient Renal Action:

℞ Potass. citrat..... ʒj; 1.33 gm.
Infus. digitalis..... } āā ℥ss; 15.00 fl. gm.
Infus. buchu..... }
M. Sig.—This amount three times a day.

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In the third American edition of this book Dr. Playfair respectfully admits the existence of this odd deformity of the uterus, and says: "I have no personal experience of this complication, which, fortunately, must be very rare." He does not attempt to treat or discuss a subject a knowledge of which he would be forced to derive mainly from sources which are neither indorsed by personal acquaintance nor certified by high professional reputation. Yet English writers, whose books teach classes of the largest possible size, must soon appreciate a new form and phrase of difficult labor, and make it a visible, if not conspicuous, object in the obstetric field; otherwise their instructions in midwifery will be incomplete, and fail to provide for one of the most serious emergencies of practice.

It is not to supposed that this Society will demand any additional proof of the possible existence of an *ante-partum* hour-glass contraction of the uterus. But there is a great diversity in cases which, for convenience and simplicity of classification, are designated by the same name, and the symptoms found in a single instance can rarely, if ever, suffice for a complete description of any morbid condition. I have therefore thought proper to place before you all the clinical material not included in my original collection which I have been able to obtain from the periodical literature of medicine. The several cases will be presented, as far as possible, in the chronological order of their occurrence.

In the *Medical and Surgical Reporter* of February 5, 1876, may be found the report of a case of hour-glass contraction The patient was a married primipara aged thirty-one. Labor began in the afternoon of April 17, 1874,* upon what was, by calculation, the one hundred and sixtieth day of pregnancy. At the end of sixty hours a dead child was delivered, and without assistance, so far as the record enables us to judge. The womb not diminishing in size, its cavity was explored for the purpose of ascertaining if it contained another child. "The placenta was found attached at the fundus † of the uterus, and it was still quite impossible to make out the kind or condition of the body above."

* My first and only observation was made in September, 1876.

† This statement may fairly be questioned. Those portions of the report which refer to the placentæ are somewhat confused.

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fectly smooth, and to the touch suggests "that a silken cord has been run beneath the mucous membrane of the womb, and tightened about the child." During a pain "the 'cord' becomes more rigid, grasps the neck of the child with my finger and almost cuts them. Such are its wonderful power and tenuity." At the instant of uterine contraction the constriction embraced the fœtus with such firmness that there seemed to be not simply contact but continuity of tissues belonging to different individuals, so that all trace of an opening disappeared. The patient was now etherized. At first the constriction was found to be as firm as ever, and the child was "held as by a vice." Force was required, yet by digital and manual dilatation the stricture was gradually overcome, and at the end of thirty minutes the hand was fairly within "the upper cavity." The passage of the fœtal head having been provided for by securing a still farther relaxation of the annular contraction, the feet were seized and brought down, and delivery was accomplished without difficulty. The child was dead. The placenta followed naturally. The patient made a slow but complete recovery. To the report of this case the writer appends some thoughtful remarks, interesting to read, but not sufficiently brief for introduction here. He insists upon that difference of anatomical structure which makes the contrast between the uterine body and the cervix, and clearly points out the relations in which these two portions of the organ respectively stand to the parturient function. He states at length, and illustrates by diagram, his theory of the manner in which the innate forces of the womb lose their natural equilibrium, and thus produce deformity and dystocia.

In the *North Carolina Medical Journal*, March, 1878, A. H. Goelet, M.D., of New York, furnishes a very meagre and unsatisfactory account of a case of ante-partum hour-glass contraction, which came to his notice July 24, 1877. The patient was a married woman, and this, her third labor, was premature, occurring in the middle of the seventh month. In due time "the uterus was discovered to be contracted in the center, the fœtus above the constriction and a finger projecting through." On account of a hæmorrhage, which in amount was sufficient to compromise the safety of the woman, it was decided to deliver at

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valuable acquisition to the history of this subject, illustrating, as it does, the relation which may exist between tonic spasm of the internal os and the several stages of a mutiple birth. According to the record, as the result of an eighth pregnancy, two living male children were born by a brief and easy process. They weighed, the first five and one half, the second five pounds. The uterus was found to contain a third child, and through the abdomen it was "easy to trace the rigid hour-glass contraction." "By persistent traction the hips passed through the constriction, and a dead female child of four and three quarter pounds was delivered." "Just below the umbilicus, at a point seized by the constriction, the body of the child was nearly cut in two." The placenta, with three cords adhering above the constriction, was reached and removed with the greatest difficulty, and only by the successive efforts of three physicians, each of whom experienced in a painful degree the paralyzing and disabling effect of the severe pressure to which the hand was subjected in its vigorous and forcible efforts to overcome the occlusion, and obtain possession of the true uterine cavity. The woman speedily died.

The *Boston Medical and Surgical Journal*, in its issue of May 27, 1880, published the proceedings of the Society, at the regular meeting held in October, 1879. Therein is included the report of a case made by Dr. L. R. Stone, in which a firm constriction, encircling the fœtal neck, seriously retarded the progress of labor, rendered instrumental interference necessary, and in some way determined a still birth. The mother recovered. It is worthy of note that a degree of relaxation in the stricture seemed to be produced by the use of ether.

On page 397 of the *British Obstetrical Journal*, September, 1879, may be found "Note of a case of spasmodic contraction of the lower uterine segment during the first stage of labor." It was under this title that Dr. Angus MacDonald made a communication to the Obstetrical Society of Edinburgh, at a meeting held February 12, 1879.* Mrs. C., a chronic epileptic, then advanced ten or twelve hours in her fifth labor, was visited in consultation by Dr. MacDonald at 9.30 P.M., December 16, 1875. Pains

* The Obstetrical Society of Boston had discussed this subject as early as February 9, 1878.

were severe. "Immediately above the cervical segment, which was half dilated and easily dilatable, the lower uterine segment was felt to project or bulge in a peculiarly rigid or shelving manner," and to be as "hard as a deal board." Such was the rigidity of the parts that the presentation could not be ascertained. "The perinæal and levator ani muscles, as well as the lower uterine segment, were observed to be thrown into a condition of intense spasms by every attempt to perform a vaginal examination." The full impression of chloroform removed the spasm at once, and through the unbroken membranes a small head was found to be presenting at the time. During each pain the external os and cervical canal remained flaccid, but the inner os was closely shut, and the head, instead of being depressed by uterine action, was elevated very distinctly. In due time the need of artificial aid was obvious, and with the assistance of chloroform anæsthesia, version was performed with ease, and the child was saved. "The placenta was expelled spontaneously about fifteen minutes after the birth of the child." The record contains no intimation that the maternal convalescence was not a rapid and prosperous one. The reporter alludes to a possible complication of version, which is sometimes fatal to the child, and which consists "of the trouble that is occasionally experienced in getting the after-coming head through the spasmodically contracted lower uterine segment."

The species of case which gives title to his communication, is in his experience unique. The conclusion must then be that it is only in an extremely mild and manageable form that he has witnessed ante-partum hour-glass contraction.

With one exception, the ideas which found expression in the discussion that followed were based upon the theory which located the spasm in the internal os and adjacent muscular tissue of the uterine body, and acquitted the cervix of all participation in the abnormal and perverted condition. The "why" of this thing did not escape attention, and the question receives a provisional answer, as follows: "It would, therefore, appear to me that the predisposing cause in this case was a neurosis affecting the vagina and the lower part of the uterine body, but not extending to the upper ranges of the body, or to the fundus uteri, and which seemed to act in such a manner, on slight stimulus, as to throw

the parts within its reach into a condition of spasmodic contraction. The pressure of the head against the internal os during a pain would appear of itself to have been sufficient to start this spasmodic condition, or, in other words, to have probably acted as the proximate cause of the spasmodic condition." Science may gain something if future observers will bear in mind the hint here given as to the relation existing between individual temperament and tonic contraction of the internal os. In my first paper I distinctly stated the possible aggravation of such contraction through the reflex action of measures that were intended to be remedial.

In view of the terms of the title under which I now for the third time ask the attention of the society to a dangerous and anomalous condition, which in November, 1876, was introduced under the name of ante-partum hour-glass contraction, I desire to quote Dr. J. Matthews Duncan. His article On Two Contrasted Forms of Weak Labor, copied from the *Obstetrical Journal*, February, 1878, page 705, may be found in Braithwaite's Retrospect, Part 67, July, 1878, page 184. In one case labor is weak because the uterus of the elderly multipara is feeble and inert, endowed with only a small remainder of its original energy, and incapable of vigorous and efficient action. In the other case, the subject is generally a primipara, or a young woman having a special nervous mobility. The labor is practically weak, not through any deficiency in the inherent muscular power of the womb, but for the reason that the contractile force of the organ, instead of undergoing the normal conversion into the propulsion and expulsion of the child, is expended in the production of deformity. In other words, the body of the womb acquires a permanent retraction; with each succeeding pain becomes a little shorter in its longitudinal dimension, always adding something to the thickness and strength of its wall; while the cervix is elongated and attenuated in a corresponding degree; the fœtus becomes stationary, and the condition of labor loses its parturient character. The disproportion between the two portions of the womb may be so great that the lower margin of the uterine body is sometimes raised almost to the level of the umbilicus. In both these forms of weak labor, "the child is brought into the world

by a very small expenditure of force." Dr. Duncan cites the case of an "excessively nervous" woman whose three labors were all, in a similar way, busy and painful, but tedious. "When the head reached the perinæum, while the pains continued severe, progress was arrested." It was only at the third confinement that the nature of the case was exactly ascertained. At that time "delivery by forceps was effected without any effort worthy of the name of pulling, the child was little more than lifted out of the passages."

Without forgetting the allowance that is due to irregularity in pelvic size or shape, let us make a comparison, placing upon one side that case in which the uterus, by the retraction of its body and the elongation of its neck, loses the relation and proportion that naturally exist between the two portions which in their combination constitute the organ; and in which, although spontaneous delivery is extremely improbable, the removal of the child is effected by artificial means with surprising facility and with absolute safety. Upon the other side, we will place the case in which uterine deformity of the most aggravated kind is produced by the introduction of a third element; by the addition of a tetanic spasm of the whole circle of the internal os to the retracted body and elongated cervix, and in which not only is spontaneous delivery simply impossible, but the termination of labor is reached with a difficulty that is beyond all description, and can be appreciated by those alone who have met and overcome it, and have been eye-witnesses of the appalling danger to which it exposes both the lives that are involved in every case of child-birth, and which natural labor was never intended to put in jeopardy.

Trite and old is the saying that new things are not to be found on this side of the sun. Possibly the older obstetricians failed to appreciate all that passed before their eyes or came in contact with their hands, just as the old physicians accepted identity when there existed a similarity only the most remote, and in diagnosis overlooked distinctions which now irresistibly force themselves upon the attention. But within seven years, that is, since April, 1874, by a coincidence that is not without precedent in the history of even important discoveries, ante-partum hour-glass contraction has been observed in so large a number of cases

as to modify the impression of extreme rarity and extraordinary character which was conveyed by the first report of a case made to this society. The wide geographical distribution of the instances here collected proves that this particular complication of labor does not take its origin in accident or influence of place, but that it forms a legitimate and indisputable part of universal midwifery, and is entitled to a high rank among those difficulties and obstacles to delivery which make the process of child-bearing in any degree unnatural. Different observers, in entire ignorance and independence of each other, have made their several descriptions in words and phrases so nearly identical that there can be no doubt that they have all been dealing with the same thing.

I will not attempt a careful analysis of the several cases which constitute the substance of this communication, but upon making a general review of them, I would draw the following conclusions, and ask their provisional acceptance:

1. Simple elongation of the cervix, even though it be excessive, disables the uterus by perversion of its force, renders spontaneous expulsion improbable, but in connection with artificial delivery does not produce a condition of things to which the term dystocia can be applied with any propriety or significance.

2. Tonic spasm of the internal os may in single labor be developed so early as to imprison the whole fœtus in the cavity of the uterine body, and in a multiple labor its production may be so postponed as to interfere only with the birth of the last child. Its existence cannot necessarily be referred either to pelvic deformity, to extreme elongation of the cervix, nor to the occupation of the cervical cavity by any portion of the unborn child.

Finally, I would call attention to the facts that tonic spasm of the internal os has shown a marked tendency to recur in the successive labors of those who have once or even twice survived the danger to which it exposed them, and that the patient in whom it occurs for the first time is not necessarily a primipara.

The form of difficult labor to which this article refers has sometimes been spoken of as "Bandl's dystocia." That obstetrician published in 1875 Rupture of the Uterus, and in 1876 Relation of the Uterus and Cervix in Pregnancy and during Labor. But I am not aware that in either publication he describes tonic spasm

of the internal os. A competent medical friend, recently a student in Vienna, and thoroughly familiar with the German language, having searched at my request, writes under date of February 24, 1881: "I have looked carefully through the two pamphlets, and find no mention at all of a spasmodic contraction of the internal os."—*Boston Med. and Surg. Journal.*

ON THE TREATMENT OF THE VARIOUS FORMS OF CONSUMPTION. By ROBERTS BARTHOLOW, M.D., LL.D., Professor of Materia Medica and Therapeutics in the Jefferson Medical College. Philadelphia. (Concluded from page 669, December, 1881.)

I will now pass to the consideration of particular forms of phthisis.

You have seen recently several cases of caseous phthisis, in which there were considerable areas of infiltration; the period of inflammation had passed, and the products accumulated in the alveoli of the lungs were undergoing casceation. Now the problem for solution in these cases is, how shall we obtain the softening and extrusion of the caseous material without destruction of the pulmonary tissues? Although it is generally held that we possess no direct means of acting on these caseous deposits, and that they can be removed only by the improvement which we may effect in the bodily condition, I have reason to believe that we can reach and act on them to a considerable extent. The salts of ammonia have the power to increase the alkalinity of the blood, to prevent coagulation of fibrin, and to dissolve the albuminous exudations. Whilst the remedies were administered I have repeatedly observed the absorption and disappearance of caseous deposits. It is obvious the smaller in extent and the more recent, the more amenable to the action of the remedy. Probably the best mode of administration of the ammonia is to dissolve the carbonate in solution of the acetate (gr. v-x-℥ ss), or when it is desirable to give the iodide with the carbonate, they may be administered in an emulsion together. The duration of the administration will be governed by the effect on the caseous

deposits and by the forbearance of the digestive organs, but the remedies must be used for many months in most cases. By giving them properly diluted before meals, and allowing the stomach periods of rest, they may be continued for lengthened periods without ill results.

The range of temperature, and the amount and kind of interference required, are very important subjects. With regard to the character of the fever it must suffice for me to insist upon the fact, which I have often stated, that the febrile movement of the stage of exudation and deposit is different in character from that of the period of softening and extrusion. The former is inflammatory; the latter septicæmic. During the inflammatory stage we are concerned to employ means to lesson exudation, and to favor its immediate liquefaction and discharge. These means are quinia, digitalis, aconite, jaborandi, etc. When, however, the alveoli are blocked with the caseous deposits our attention must needs be directed to secure a favorable disposition of this material. When the caseation is completed there is a temporary subsidence of the active symptoms, which may continue for some time; the fever abates notably or disappears; the general state correspondingly improves; the cough is less troublesome; the expectoration slight; and there is, in fact, a delusive appearance of returning health. The scene changes when the process of softening begins, and moist sounds are audible in abundance where bronchial voice and breath were heard a short time before. Now there is an extensive area of pus formation, and the fever which attends it is a septicæmic fever. Observe the attendant phenomena; there is a daily sensation of coldness, of chilliness, or a distinct chill, some time during the morning, and for a short time before it the temperature had been at normal or even below; then a fever comes on, the mercury rising to 103°, 104°F.; and the whole process terminating in a profuse sweat. In respect to this fever the practical point I wish to impress on you is, that the best means of keeping down the temperature are rest, and the administration of remedies to restrain the sweats, and to quiet the cough. By rest I mean a condition of repose without exercise, except such muscular movements as are required in dressing, in walking from one room to another on the same floor, etc. There

are sound physiological reasons for this recommendation. Rest lessens the consumption of material, the wear of tissue, and the production of heat, and conversely exercise increases the consumption of material, wastes the tissues, and increases the production of heat. Applying the physiological data to the subject before us, I must admit that exercise is theoretically prejudicial to the phthisical suffering from septicæmic fever. I have made a number of careful observations with a standard thermometer to ascertain the effect of exercise on the daily temperature of consumptives in the stage of softening, and I have noticed a rise of from one to two degrees. Any observant physician, whose attention is directed to it, will not fail to perceive the disastrous effect of persistent exercise in respect to an exacerbation of all the symptoms. Whilst I thus strongly insist on the necessity for rest when there is any considerable elevation ef temperature in phthisis, I do not mean to apply this dictum to all cases. In the cases of incipient phthisis, fibroid lung, and chronic forms, with little fever, I advise an outdoor life, and exercise consistent with the stamina of the individual. Experience has abundantly shown that in cases of consumption at the initial stage, an outdoor life of some considerable exposure, indeed, is permanently beneficial. Furthermore, gentlemen, I must relieve your minds of the impression, if you have received it, that I mean by *rest*, confinement to the foul air or other evil hygienic influences of the sick room. By no means. Rest is not incompatible with constant, or nearly constant, exposure to the external air, and this I always insist upon in prescribing the necessary regimen.

I come now to another symptom—cough—which usually taxes severely the resources of the physician. As cough prevents sleep, destroys rest, and is exhausting, the patients are clamorous for relief. Much coughing is a peculiarly severe form of exercise, and demands suppression or amelioration for this reason. The expedients are almost past computation—a sure indication both of failure and intractability. The reflex irritation proceeding from the fauces may be allayed by a gargle of bromide of potassium, by brushing over the mucous membrane a one per cent. solution of carbolic acid, or by atomizing a solution of morphia. The combination of diluted hydro-bromic acid, and spirit of chlo-

roform proposed by Dr. Fothergill, does very well sometimes, but in general is disappointing. In fact there are no efficient substitutes for opium, and we must turn to this when the cough is severe and persistent. The most generally useful of the preparations and derivatives of opium is codeia. The grounds of its utility in cough, are these: it has a selective action on the pneumogastric nerve, allaying irritability of its end organs; it is calmative and hypnotic, and as compared to morphia is less excitant and less nauseant. Codeia is adapted to those cases in which the cough is largely nervous. It may be combined with strychnia when there is vomiting, and with atropia or picro-toxine when the sweats are profuse. The following are examples: ℞. Codeiæ sulph. gr. x. ext. hyoscyami ʒj. M. ft. pil. no. xx. Sig. One pill every four hours. ℞. Codeiæ sulph. gr. xvj. strychniæ sulph, gr. j, atropiæ sulph, gr. ⅛, acid, sulph. dil. ʒ ij, aquæ ʒ vj. M. Sig. Ten to fifteen drops three times a day. Morphia may be substituted for codeia in any of these prescriptions, by reducing the quantity one-half. Carbolic acid exercises no little influence over cough, expectoration, and fever, and is most serviceable in allaying the reflex vomiting. It is best given in solution, as follows: ℞. Acid. carbolic, gr. viij, aquæ laurocerasi, aquæ āā ʒ i. M. Sig. A teaspoonful every four hours. Carbolic acid is especially indicated in the fetid expectoration of bronchiectasis. In the cough of fibroid lung, and of the stage of deposit before softening in caseous pneumonia, I have had excellent results from the administration of iodide of ammonium in the wine of tar. ℞. Ammonii iodid. ʒ ij, vini picis liquid; syrp. tolu āā ʒ ij. M. Sig. A teaspoonful.

Now, gentlemen, I come to the last topic which I can discuss to-day—night sweats. This is both an interesting and an important subject. It is interesting because of the striking results obtained by some new contributions to our therapeutical resources, and important because of the baleful influence of the sweats over the progress of the disease. If the sweats are profuse, there is an actual loss of material, of salts and organic matter, which represents waste of tissue. It is highly important to check this waste and preserve the material for the nutrition of the body. Until the recent observations of Dr. Murrell proving the great

value of picrotoxine, atropia had the first place as a remedy for the night sweats of phthisis. I have usually given atropia with strychnia and morphia for the triple object of arresting the sweating, allaying cough, and stopping the reflex vomiting. It is not a little remarkable that the temperature is generally reduced by the combined use of these remedies. I have preferred to give the atropia with regularity three times a day, because of an influence over the progress of the disease, which seems to be independent of its anhydrotic power, and which can be explained only on the supposition that it has the power to improve the nutrition of the lungs. Its introduction into use as a remedy for phthisis has put a new phase on the prognosis of cases of caseous pneumonia not advanced to the stage of softening. Some practitioners prefer to give atropia in a single full dose (1.60th of a grain) at bed hour, but the results are better, if given in a small quantity (1 120th of a grain) the effect being distributed through the day. The susceptibility to the action of atropia varies greatly, and as painful discomfort may be produced by a medicinal dose, care is necessary to avoid unpleasant results. Recognizing the importance of the influence which atropia appears to have on the trophic system of the lungs, I have had patients take it for years at a time, and without any ill effects.

The success of picrotoxine as an anhydrotic has been quite decided. Dr. Murrell finds that so small a quantity as the 1 120th of a grain, given at bed hour, may arrest the sweating for a number of days. Although possessed of properties somewhat like those of strychnia, it is by no means so powerful, and may be given by the stomach up to 1.80th of a grain. Dover's powder, and oddly enough, pilocarpine occasionally, acts very decidedly as an arrester of perspiration—a capital illustration of certain kinds of physiological antagonism. But pilocarpine cannot be depended on for constant service. Take it all in all, atropia should be preferred in most cases, because of its apparent influence over the nutrition of the lungs. Whilst atropia is given three times a day, picrotoxine may be exhibited at bed-time if the effect of the former is inadequate.

There are other important topics connected with the treatment of phthisis which I would gladly enter on, if there were sufficient

time, but in the facts I have laid before you will be found the main points from which the details may be easily derived. You will find, indeed, that treated according to the principles I have just developed, many cases of phthisis will be conducted ultimately to a safe termination, and you will learn to look with more hopeful confidence on the success of your management than you have probably done heretofore.—*Medical News and Abstract.*

IN response to the challenge for the production from the experience of our American surgeons results which demonstrate any superiority in the methods of Mr. Lister over those less complicated and more frequently adopted, and to meet also the demand that we should compare the results of the different methods adopted by surgeons of to-day, I want to call attention to the labors of my friend, Professor Gerrish, of the Maine General Hospital, who last spring published the results of such a comparison made in the wards of that hospital. He was an enthusiastic adherent of antiseptic surgery according to Lister; among his colleagues was Dr. Wm. Warren Green, referred to in one of the papers of the evening. Professor Green was not an adherent of Lister. Professor Gerrish treated six (6) cases of excision of the breast according to Listerian methods. His colleagues excised the breast in seven (7) cases. They were all in the same ward, and cared for by the same nurses, fed with the same food, and their conditions were as near as possible the same. It is not to be forgotten that their constitutional differences are to be looked after, and it was stated that the constitutional conditions of those treated by ordinary methods was quite as good, if not better, than those treated antiseptically. The results were as follows: The average number of days in hospital of patients treated antiseptically, was $12\frac{3}{4}$. When they left the hospital, every one left with the wound entirely closed, except in one case. Of those who were treated according to the ordinary methods, the average stay in hospital was $23\frac{4}{7}$ days, and in only three cases had complete healing of the wound taken place at the time of the discharge. Of the cases treated antiseptically, in every one was union by first intention obtained without suppuration, except in one case, in which atmospheric air was accidentally allowed access to the wound. Of the non-antiseptic cases, in all there was suppuration. Here, then, has been performed a practical experiment, by one of our own colleagues, in conditions that were especially favorable for rendering the results decisive, a real *experimentum crucis*. The results need no comment.—*Pilcher.*

Items.

GENERAL RULES FOR THE PREVENTION AND RESTRICTION OF CONTAGIOUS DISEASES. Issued by the Michigan State Board of Health.

1. Avoid the contagium or special cause of the disease. Do not take the breath of one sick. Unless you are needed to care for the sick, or are protected by having had the disease, or, in case of small-pox, by thorough vaccination, do not go near the sick person. Do not allow your lips to touch any food, cup, spoon, or anything else that the sick person has touched or that has been in the sick room. Do not wipe your face or hands with any cloth that has been near the sick person. Do not wear any clothing the sick person has worn during, just before, or just after his sickness. Keep your hands free from discharges from the body or skin of the sick person. Do not touch him with sore or scratched hands. Particularly avoid inhaling or in any way receiving into the mouth or nose the branny scales that fall off or peel off from one recovering from, or apparently wholly recovered from scarlet fever.

2. Restrict the contagium or special cause of the disease. Isolate the sick. Separate those sick with any of these diseases, even if they are but mildly sick, from all persons except necessary attendants. A person sick with any of these diseases should not be permitted to suffer from want of care, food, or comfort; but all his wants should be attended to by adults, or by those who are protected by proper vaccination or by having had the disease. Children, and those who are not thus protected, should be kept away from these diseases. Do not go from the sick-room to a child or other unprotected person until after change of clothing,

and thorough washing of hands, face, hair and beard. Always wash the hands thoroughly after any necessary handling of the sick person, or of anything that has been in contact with the sick. Keep those who have been exposed to any of these diseases away from schools, churches and other assemblies, and from all children, until it is known whether they are infected—and if they are found to be infected, isolate them till after complete recovery and thorough disinfection.

3. Destroy the contagium or special cause of the disease,—

a. By thoroughly disinfecting or destroying whatever is removed from the person sick or from the sick-room. All discharges from the patient should be received into vessels containing a strong solution of sulphate of iron (copperas), and then, in cities, thrown into the water-closet; elsewhere they should be buried at least one hundred feet distant from any well; or where this is impracticable they should be received on old clothes, which should immediately be burned or disinfected and buried.

b. By thoroughly disinfecting the sick-room and its contents, after removal of the sick person, whether by death or recovery.

Disinfect as follows: Burn whatever has been in contact with the sick person and is not too valuable to burn. Garments, sheets, blankets, etc., that will not be injured by bleaching, should be boiled for half an hour in a zinc-solution made by dissolving zinc sulphate and common salt in water, in the proportion of four ounces of the zinc sulphate and two ounces of common salt to one gallon of water. Hang up and loosely spread out clothing, bedding, etc., that cannot be boiled in the zinc-solution, or spread it loosely over chairs in the sick-room, leaving the bedstead and other furniture in the room. Close all openings to the room very tight. For a room ten feet square place two pounds of sulphur in an iron pot or pan supported on bricks. Set the sulphur on fire with live coals or with a spoonful of alcohol lighted by a match. Be careful not to breathe the sulphurous fumes. Leave the room tightly closed for several hours, then air it thoroughly. For a large room use a proportionately larger quantity of sulphur at the rate of two pounds for each 1,000 cubic feet of air-space, and try to burn as much as possible of the sulphur used.

4. Keep your house and premises and everything connected, therewith clean, but remember that *the contagium of these diseases may attach to the cleanest article* of clothing, food, drink, book, or paper, if it is exposed thereto.

TREATMENT OF FELONS. — Adinell Hewson offers some suggestions for the accurate diagnosis and successful treatment of felons. For diagnosis he makes a flattened conical tube of binder's board with its base five by three and one half inches in diameter, so trimmed as to fit closely over brow, cheeks and upper lip. The length is such as to bring the apex at about the distance of the range of distinct vision. The apex is an orifice one-eighth by three-sixteenths of an inch in diameter. The tube is made from a sheet of binder's board by dipping in warm water to soften it, then rolling it diagonally, and wrapping with cord to retain form until dry.

By means of this simple apparatus he examines the tissues by transmitted light. In the case of a suspected felon the patient's finger is brought to the point of the tube, which is held in the direction of a bright light, either natural or artificial, while the face is so applied at the base as to make it fit closely and exclude the light. During the examination Dr. Hewson finds it of advantage to have the patient practice forced, rapid respiration to produce an anæsthetic effect. If the apex of the tube covers healthy tissues of the finger, the characteristic bright pinkish-red color is readily perceived, while if the tissues are engorged the darker red tint, deepened in proportion to the intensity of the engorgement, will be equally characteristic, and will form a marked contrast to the color to be seen on examining the corresponding finger on the other hand. If the tint, though still reddish, be of a yellow hue pus has formed in the cellular tissue around or in the theca of the tendon. If by making firmer pressure, so as to cut off the lateral illumination through the tissues, the tint is found to be of a positive yellow, it is evident that there is suppuration in the theca of the tendon. Finally, if the tint so transmitted is of a dirty or opaque yellow the bone or periosteum is the seat of purulent formation and collection.

When such examination demonstrates that pus has not yet

formed, he has generally succeeding in aborting a felon by the application of a thick paste of wet clay, covered first with tissue paper and then with a thin layer of bandage stiffened by liquid glue painted in strips lengthwise on each side of the finger. The object of applying the glue thus, instead of covering the whole surface, is to allow the drying of the clay, which would be prevented by coating the whole surface with glue.

Dr. Hewson's experience with such uses of clay has been very extensive, and he reports some very interesting and valuable results obtained by this agent. In this class of cases here considered he finds that as a rule the relief is very prompt, in which case the dressing is allowed to remain for several days. When the pain is not relieved in two or three hours after the application of the earth he removes it at once and makes a free incision, as he feels sure that nothing else will arrest the process.—*Coll. and Clin. Record.*

A BLIND HORSE FOR A SURGEON.— Dr. Geo. I. Rice, of La Moille, Illinois, relates a very interesting case. A patient presented himself with an old dislocation of the shoulder downward, which had occurred nearly a year before. No force, which it was prudent to use, was sufficient to reduce it, and the case was left to nature.

Last Thanksgiving day, just four years after the joint was dislocated, the patient was riding in a buggy, leading a blind horse following. To make sure of his hold, he wound the halter around his wrist. The blind horse chancing to run against the hind wheel, became frightened and jerked violently backward. The forward horse meanwhile kept pulling ahead. The wrench was terrible, and the man went home nearly sick and took to bed. At length he fell asleep, and woke after some hours refreshed. To his great surprise, he found the dislocated shoulder reduced, and in a short time the joint regained nearly its normal usefulness.

It is believed that the Board of Health will have this horse fined for practicing without a license.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Jan. 2 and 16.
West Chicago Medical Society—Mondays, Jan. 9 and 23.
Biological Society—Wednesday, Jan. 4.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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Clinical Lectures.

ARTICLE I.

TYPHOID FEVER: ITS UNUSUAL PREVALENCE IN THE CITY OF CHICAGO DURING THE SUMMER AND AUTUMN OF 1881; ITS CAUSES, CHARACTERISTICS AND TREATMENT. The substance of a Clinic in the Medical Wards of the Mercy Hospital, Jan. 20, 1882. By N. S. DAVIS, M.D., Professor of Principles and Practice of Medicine and of Clinical Medicine in Chicago Medical College.

GENTLEMEN: At the opening of the present college term the last week in September, you found an unusual number of cases of severe typhoid fever in the medical wards of this hospital, and your attention was occupied during almost every medical clinic-day in a bed-side study of cases of that important variety of fever for five or six weeks. I then had occasion to remark to you that the disease had been much more prevalent in this city during the summer and early autumn than the average of a term of years, and that the progress of individual cases was characterized by unusual severity. During the last month (December)

you have seen the number of cases steadily diminish in our wards until there are but few left, while their places have come to be occupied by a larger proportion of rheumatic, catarrhal, and pulmonary affections. Among the number left, is one, in the progress of which there are some points of interest to which I wish to direct your attention at the present time. Before I do so, however, I wish to present some facts that may explain, in part at least, the unusual prevalence of typhoid fever the past season. To assure myself of the correctness of my impression as to the extraordinary prevalence of the disease, I took the time to compare the official reports of mortality by the Health Department of the city for the nine months commencing April 1 and ending December 31, of 1880, with the same months of 1881. That you may appreciate the comparison better I will place it in tabular form before you on the blackboard, as follows:

Number of Deaths from Typhoid Fever in—	1880.	1881.
April	11	10
May	8	29
June	9	24
July	11	23
August	21	98
September	25	94
October	31	123
November	14	73
December	13	53
Total	143	527

You see by the figures that the total number of deaths from typhoid fever for the nine months of 1880 was 143, and the total number for the same months of 1881 was 527, being an increase of nearly four-fold. If we might suppose the mortality from this disease in 1880 was a little below the ordinary average, there would still remain sufficient increase to justify the appellation of epidemic for the disease in 1881. One of the most interesting and important questions suggested by the unusual prevalence of typhoid fever during the past season relates to the cause or causes that may have produced it. I presume no one will claim that there has been any fresh importation of fever germs or poison

from abroad; neither can it be truthfully claimed that the sanitary condition of the city, so far as the accumulations of dirt and filth in the streets and alleys, and the conditions of sewers, etc., are concerned, was in any material degree worse in 1881 than in the preceding year. If this is conceded, then we must examine the meteorological characteristics of the two seasons to see if they afford any reasonable explanation.

In comparing the mean temperature of the nine months, I find that of 1880 to be 55.4° F., and that of 1881 to be 58.3° F. The mean for the months of April, May and June, 1880, was much higher than for the same months in 1881. The means for July and August were very nearly the same in both years, while the mean for each of the remaining four months was much higher in 1881 than in 1880. You see, therefore, that the higher aggregate mean temperature for the nine months of 1881 is owing entirely to the higher temperature of the last four months. But the figures in the table show that the unusual prevalence of fever commenced in May, when the mean temperature of that month was nearly 4° F. below that of the corresponding month of the preceding year; consequently we get no explanation from this comparison of mean temperatures. A comparison of the mean humidity and average rain-fall affords no more satisfactory results. And yet a more detailed study of the meteorological conditions accompanying the two years develops differences of a striking and important character. For instance, in the months of February and March of 1880, there was no unusual fall of either snow or rain, and April commenced with about the usual temperature and soil moisture, and throughout that and the succeeding month there were frequent rains, making the aggregate of fresh fallen water a full average for both months. The same was true in regard to the temperature and rain-fall for the next five months, from the first of June to the end of October. There was no protracted season of dry weather until November and December, when the temperature had become low. On the other hand, during the months of February and March, 1881, there was an extraordinary fall of snow, more especially during the last half of March. The snow fell in this region several feet deep. Its melting caused the month of April to be character-

ized by extraordinary floods over nearly the whole Northwest, and the soil was saturated to an unusual depth. Yet directly following the overwhelming saturation from the melting snows of March there were sixty-seven days during which there was hardly enough rain-fall to wet the dust in the streets. The first rain-fall of importance after the beginning of April was on the 6th, 7th and 8th of June. Then followed forty-two days more, until the 21st of July, without rain sufficient to penetrate the soil an inch at any one time. A liberal rain fell on the 21st of July, but no more of importance until the 15th of September, a period of fifty-four days. We thus find five and a half months of dry weather, broken by only two copious rains, and these separated by an interval of forty-two days, following a period of most complete saturation, and the last half of the time accompanied by a temperature favorable for both decomposition and evaporation of the morbid products. Another coincident item of much importance was the greater *stillness* of the atmosphere during all the months under consideration in 1881, compared with those of 1880.. The aggregate number of miles travelled by the winds or atmospheric currents, at the government signal service station in this city, for the nine months of 1881 was 50,422; and for the same months of 1880 it was 56,779.

Not only was the aggregate distance traveled by the atmospheric currents much less in 1881, but the maximum velocity attained by the winds was from four to fifteen miles per hour less for each month, except September, which was four miles per hour more than in the corresponding month of 1880. By this study of the meteorological records, I have evolved three factors, or special characteristics, of much importance in their relations to the prevalence of typhoid fever. They are, first, the extreme saturation of the soil from melting snow during the first half of April; second, the long periods of dryness during the succeeding five months favoring the constant evaporation of the products of decomposition from the surface and sub-soil into the atmosphere; and third, the constant stillness of the atmosphere, which greatly favored the retention of the evaporated miasms in the lower strata, where they would be most readily inhaled by the community. That these coincident conditions were the chief

agencies in causing the unusual prevalence and severity of typhoid fever during the past season, I have no doubt. This conclusion is further supported by the fact that there was, during the same time, a greater development of that form of malaria which produces periodical fevers, as shown by the marked increase in the mixed cases, called typho-malarial. Thus we have for nine months 65 deaths reported as from typho-malarial fever in 1881, and only 17 for the same period in 1880. Then a careful noting of the several data will show that the conditions which I have pointed out as efficiently favoring the prevalence of the fever, existed in their greatest intensity from the 21st of July to the middle of September, and if you remember that most of the deaths resulting from the typhoid form of fever occur during the fourth and fifth weeks after their commencement, you will see why the highest mortality was reached in October, and why the more copious rains, and greater prevalence of north and north-east winds in October, so rapidly diminished the number of attacks as to cause a great decline in the mortality for the following month of November. During the earlier part of the present college term, while calling your attention to the symptoms and treatment of several cases of typhoid fever in these wards, I stated that fever when used as the name of an acute general disease was something more than mere increased heat; that the latter was, indeed, only one of a number of important symptoms, resulting from a disturbance of the elementary properties of the tissues and of the molecular movements generally; and, consequently, that the prevailing antipyretic doctrine and practice were founded upon a mere symptom common to many diseases, instead of resting upon the actual pathological processes which constitute a distinct variety of fever.

As proof of the correctness of this view, I directed your attention to the fact, fully demonstrated by clinical experience, that the heat returned just as often as the influence of the antipyretic was withheld, until the disease had run its natural course. The correctness of these views has received striking confirmation by the facts embraced in a "Clinical Lecture on the Antipyretic Treatment of Typhoid Fever by Baths, Sponging the Body, and the Wet Sheet," in the Bellevue Hospital, by Austin Flint, M.D., etc., and

published in a recent number of the *Philadelphia Medical News*. In this lecture Dr. Flint gives an interesting analysis of the treatment of seventeen cases in the wards of the hospital under his own direction during the present season, detailed records of which were kept by his assistants. The treatment consisted mainly in the employment of antipyretics, including the cold bath, wet sheet with sprinkling, and the sponge bath; and in a less degree, sulphate of quinia and alcoholic liquids. Among the conclusions arrived at by the lecturer are, first, that by the employment of the external application of cold water in typhoid fever the temperature of the body can be reduced to 102° F. or lower. Second, that after a variable period of time the temperature, "as a rule, again rises as high as, or higher than, before the reduction." Third, that the cases analyzed "do not afford proof either that the fatality of typhoid fever or its duration is diminished" by the antipyretic measures employed. Of the seventeen cases mentioned as treated by the measures alluded to, four died.

While appreciating fully the value of frequent sponging of the cutaneous surface with water, whenever it is hot and dry, as a palliative in typhoid fever, I have found it to exert but a feeble influence over the progress of those general deteriorative molecular changes throughout both the organized structures and the organic constituents of the blood, which constitute the essential pathology of this variety of fever. To more effectually counteract these morbid changes we need some remedy capable of exerting a general alterant and antiseptic influence, and maintaining it for a considerable time without depressing the strength, or creating local complications. The last time I took you to the bedside of typhoid fever patients I called your attention to the effects of iodine, which I had then commenced giving, with the hope that it might be found capable of exerting more nearly the actual alterant and antiseptic influence needed, than any of the remedies hitherto used in such cases. Since then I have continued to use the remedy in all the well marked cases of typhoid coming under my supervision, both in the hospital and in private practice. Without counting the case before us to-day, which is yet under treatment, the whole number of well marked cases in which the

iodine was given as the leading remedy, is fourteen. Seven of these cases occurred in private practice, and the other seven were treated in these wards. Of the seven cases treated outside of the hospital, five came under my care during the first three days after the patients took to their beds; the other two not until the first half of the second week. Of those treated in the hospital, two were admitted on the third day of the fever, two on the fifth and sixth days, and the remaining three between the seventh and tenth after the commencement of the disease. You will note that nine of the fourteen cases were brought under treatment during the first week after the onset of the disease, and the other five not until the first half of the second week. The treatment in all these cases consisted in the administration of from 12 to 15 minims of the following solution of iodine:

℞ Iodinii .....0.5 grams .....grs. viij
Potassii iodidi ..... 2.0 grams..... " xxx
Aquæ distillatæ .....45.0 cc.....℥jss
M.

These doses were generally diluted with 30 cc. or two tablespoonfuls of sweetened water, and repeated every four hours for the first three or four days, and then every six hours until indications of convalescence appeared. Whenever the intestinal evacuations become too frequent and thin, a teaspoonful of the ordinary turpentine and laudanum emulsion was given between the doses of iodine. When the temperature rose to 40° C. (104° F.), and the skin dry, the patients were frequently sponged with cold water. Two of the seven treated in private practice took two grains of sulphate of quinia three times a day during the last week of their progress. Nearly all of the seven treated in the hospital wards took small quantities of the mineral acids largely diluted with water during the earlier part of their treatment, and small doses of quinine three or four times in the twenty-four hours during the latter part. All the fourteen were carefully nourished by the faithful giving of milk, wheat-flour and milk-gruel, and beef-tea, at regular intervals.

No alcoholic liquids, either fermented or distilled, were given to any of these patients during any part of their treatment. Of

the nine cases in which the treatment was commenced during the first week after the patients took to their beds, four convalesced between the twelfth and fourteenth days; three between the fourteenth and seventeenth, and two between the seventeenth and nineteenth. Of the five cases in which the treatment was not commenced until the first half of the second week of their progress, three convalesced between the eighteenth and twenty-first days, and the other two between the twenty-first and the twenty-fifth. No one of the fourteen suffered a relapse, and no case terminated fatally. I now call your attention to the fifteenth case, in room 11, which was admitted into the hospital on the 3d of December, presenting all the symptoms of a severe grade of typhoid fever, which had commenced three days before his admission. He was put directly on the use of the solution of iodine, alternated with the turpentine and laudanum emulsion, to control a loose and tympanitic state of his bowels, with milk, and milk and flour gruel for nourishment. The case progressed favorably, and convalescence was established in about twenty days from the commencement of the disease, or seventeen days from the beginning of his treatment. This convalescence proceeded until he was able to be up, dressed, and about the house, with a good appetite and natural state of his evacuations. Nearly two weeks from the commencement of his convalescence, he began again to complain of the premonitory symptoms of fever, and on the third day had so distinct a chill that it was thought he might be under the influence of malaria, and he took three decigrams (grs. v) of quinine three times a day for two or three days. The fever, however, again assumed an unmistakable typhoid character, with considerable delirium and some looseness of the bowels. The original treatment with iodine and the emulsion was resumed, and has been continued to the present time. His temperature has declined below 38° C. (99° F.), in the morning, and 38.3° C. (101° F.), in the evening, with a clean, moist tongue, and other indications of approaching convalescence. I learn that this patient has formerly been affected with insanity, and his brain and nervous structures may have been somewhat enfeebled. But of the final results of his present sickness you will be informed in due time.

During the last four days three new cases of typhoid fever have been admitted into my wards, and all placed under the treatment I have been detailing. You can now examine them in their respective beds, and note their progress at subsequent clinic hours. To prevent being misunderstood, I will add, that I am not using iodine as a *specific* curative agent in typhoid fever, but simply as a general alterant and antiseptic, adapted to fulfill certain rational indications afforded by the pathology of the disease, and always to be aided by such collateral remedies as the abdominal or other local symptoms may indicate.

From my present experience, I am led to think it is a remedy of great value, especially when its use is commenced in the forming stage, or during the first week after the confinement of the patient from the development of the fever.

BORACIC ACID AS AN ANTISEPTIC IN CERTAIN SKIN AFFECTIONS.—Boracic acid being odorless and non-irritating, forms a convenient remedy in certain skin affections. By wearing stockings and cork soles saturated with boracic acid, the offensive odor from the feet is at once annihilated. Excessive perspiration of the same has also been permanently cured by boracic acid. An ointment of this is valuable in ulcerations, and should be expressly prepared in this manner: Make a solution of boracic acid in glycerine, and incorporate with a fatty basis of white wax and almond oil. It resembles cold cream. Vaseline is objectionable. Boracic acid is valuable in scrofulous ulcerations, abrasions, excoriations, etc.—(Extract from an article in *The Practitioner*, by G. Thin, M.D.)

Original Communications.

ARTICLE II.

A NEW THEORY OF GENERATION. By H. D. VALIN, M.D., Member of the Philosophical Society of Chicago, etc. (Read before the Biological Society, Jan. 4, 1882.)

"Hippocrates maintains that each of the two sexes possesses two kinds of seeds, formed by the superfluous nutriment, and by fluids constituted of materials proceeding from all parts of the body, and especially from the most essential—the nervous. Of these two seeds, the stronger begets males, the weaker females."*

Buffon supposed organic molecules to be incorruptible primordial monads. After an individual had acquired its full size, organic molecules would be produced in excess in each organ, and they would be sent from it, invested with its shape, to the genital organs.

Darwin declares that every separate part of the whole organization reproduces itself, and that spermatozoa include and consist of a multitude of germs thrown off from each separate part or unit.

All these theories contain certain elements of truth.

Herbert Spencer, in building up the Monistic System of Philosophy, gave the first adequate explanation of generation. "Setting out with physiological units, the existence of which various organic phenomena compel us to recognize, we get an insight into the phenomena of genesis, heredity and variation. If each organism is built of certain highly-plastic units peculiar to its species—units which slowly work toward an equilibrium of their complex polarities, in producing an aggregate of the specific structure, and

* Dunglison's Physiology. Generation.

which are at the same time slowly modifiable by the re-actions of this aggregate—we see why the multiplication of organisms proceeds in the several ways, and with the various results, which naturalists have observed."*

The following pages are intended to explain this process, and show that the theory agrees with the facts, as far as these have been ascertained.

Organized beings grow by an addition of substance, and they perpetuate by division. The most simple process of generation is observed in plants, where a branch coming to touch the ground on account of an increase in weight, shoots new roots and becomes afterward mechanically separated from the parent plant. This process becomes a function in some plants, as in the strawberry (*Frigaria virginiana*), which sends a prolongation of substance which develops at its end into leaves and roots, and becomes separated from the rest by the annual decay of the connecting fiber. This is best seen in the highly developed garden-strawberry, and is not present at all in some of the wild varieties, nor in poorly-fed individuals of any variety. A physiological function is evolved from a mechanical process which proved advantageous to the organism thus first affected. The cause of this was that those branches which first touched the ground from an undue increase in substance, took root, and thus generated a new plant in a shorter time than the rest of the branches which went to seed and produced new individuals by seed-growth. The first also imbibed a greater amount of food from the soil, hence the new change was a doubly favorable one, and each branch in which the change occurred had almost triple vitality, triple chances of life, and multiplied so fast as to outstrip the plants which had not been thus first affected. This mode of reproduction is most developed in the banyan-tree of India, a single individual sometimes forming a small forest. In process of time such species of plants entirely cease from multiplying by seed-growths.

Whenever a cloud is blown apart by the wind, its parts continue to increase, while the watery vapor increases in the atmosphere till they condense into rain. If we break in two the first

* H. Spencer: Biology, Vol. I, Pt. II, Ch. X.

crystal formed in a crystallizing mixture, both pieces will equally increase by the addition of new crystals. This is a necessary result of gravitation; and in organic compounds we have the same process. If we cut a worm in two, we make two worms of it, and each one keeps growing. This is the primitive mode of reproduction in the bacteria. After a cell has grown to a greater extent than the instability of its material composition allowed, it breaks into pieces, and the two or more new granules grow into cells, if nutriment is supplied to them.

Upon dividing, the parts of a mass of protoplasm will be most all alike, their further growth will reproduce the parent mass, and their further division will perpetuate the same process of generation by fission. Such primitive mode is observed in the yeast-plant (*Saccharomyces cerevisiæ*).

But it is an axiom that no permanent state of things can endure for any length of time, on account of the perpetual action of gravitation, on unequally distributed matter. Hence an organic granule assumes in its growth certain differentiation; it becomes a cell by increase, and a chemical change occurs in the cell from an evaporation of water and other constituents; and by contact with the circumambient medium, a sort of hardening results, and a somewhat different substance forms by the escape of the most unstable atoms of nitrogen, so that this new compound has a more stable chemical affinity. This is a cell-membrane which consists of cellulose (C_{12} H_{20} O_{10}), and under some circumstances resolves itself again into protoplasm.* In fact, after reaching certain organization the mass disintegrates, completely or in part, to resume its first state, and out of each of its granules, which are all alike, other cells will grow, and each one of them will have a tendency to harden on the surface, and thus become invested with a cell-wall or membrane. All masses grow from their centers first, according to the laws of gravitation and chemical affinity, and the first start of the granules is probably the chemical molecule of the compound. By expansion the nucleolus, which does not differ from ordinary organic granules in its appearance, becomes a nucleus, and a nucleus becomes a cell, which is a mass

* Bessey's Botany, Ch. III.

of granules; and through such an expansion the nucleus becomes homogeneous as the cell-wall did. In this condition of homogeneity the mass is much more stable, since the less differentiated a substance, the greater its stability or its molecular attraction, which is the same thing.

Any new divisions of this mass of protoplasm result in as many cells, which soon acquire a cell-membrane and a nucleus by further absorption of substance. The first cause of this inheritance of a differentiation on the part of the progeny of these cells is their being placed under similar conditions as the parent, and even if the parent mass had had no cell-membrane nor nucleus, or if it had been deprived of them, the progeny would necessarily form a cell-membrane and a nucleus under the influence of growth and gravitation, and this is proved by reproducing low organisms from an undifferentiated part of their protoplasm. Another cause of such inheritance lies in the fact that when a cell undergoes any differentiation; that is, is affected in some way by any mode of force, each particle of that mass is affected in the same manner to some extent, according to universal attraction, and must show this differentiation more whenever it increases. Thus, any one cell of a higher organism strictly corresponds to the whole, and undergoes the same changes on a small scale; and its growth must, under the same circumstances of force and surroundings, reproduce the parent in every particular. And it will differ from it in the same proportion that the atoms which become added to it, and the modes of force by which it is evolved, differ from the same factors in the parent.

Accordingly, the nearer two cells are to each other, in matters of space, time and composition, the greater their resemblance, and the greater their capacity for reproducing each other, since all modes of force act in inverse ratio to the distance. Thus, after amputation of a limb, the cells of the stump have a tendency to reproduce such a limb, and do so in the lower organisms.

Hence, the reproduction of animals and plants, rightly understood, assumes the character of an exact science, and its results can be mathematically ascertained in advance; and that is precisely what is done to-day by stock-breeders.

Whenever the process of fission is taking place rapidly from

an abundance of food, each cell remains in contact, forming a compound organism. A compound of many cells is like a large cell, and necessarily undergoes the same differentiation, on a greater scale than a single cell would; the hardening of its surface becomes an ectoderm instead of a cell-membrane, and the organism grows mostly from the center of the body.

According to the law formulated above, each cell in a compound organism undergoes changes identical with those that the whole undergoes, affected as it is by all the various modes of force; and, if detached from the rest, it will, under the same circumstances, reproduce the animal or plant; so that a part of the mass, or any cell, or any portion of a cell, is absolutely capable of reproducing the parent. Here, natural selection becomes more evident. Those compound organisms which grow rapidly under favorable circumstances will have cells growing faster, maturing earlier, separating from and reproducing the parent organism before the latter has attained its maturity. Here, then, we have a progeny produced during the life of the parent organism, and the animal or plant has a higher degree of viability than the one which ceases to exist in procreating by fission. Hence organisms multiplying by spores, as the above process is called, will survive. They are larger, they multiply more rapidly, and are surely higher than the monads.

A compound organism, upon undergoing more differentiation, ceases to be homogeneous; each of its parts may become compound also, and any one cell will need undergo much differentiation in order to reproduce the parent, somewhat as in growing potatoes or apples from their seeds; and whenever a few of the most differentiated cells aggregate and become separated, or what is still easier, when they separate from the parent and then unite, their further growth will reproduce the organism in a much shorter time, than whenever reproduction takes place through one cell alone. This concrescence of cells is the origin of sexual reproduction. This process does not by any means arise all at once, but it already exists in the monads. The lowest bacteria often mingle together, several coalescing into one, and one dividing into several, though they have undergone no differentiation. And the three processes of generation by fission, by spores and

by a concrescence of cells, are sometimes possible in the same animal or plant. In this admixture of cells from the most differentiated parts of an animal or plant, those organisms will grow the faster in which this coalescence is most readily performed. Some of these cells are supposed to arise from the ectoderm, and others from the endoderm, these being the most differentiated parts of monads; at any rate, whenever some of these cells assume a more favorable shape than that of a sphere — and they perpetually change their shape — they penetrate other spherical cells much more readily; hence the early evolution of pointed cells, which are called androspores, and represent the male individual. The same process in the granules of the androspore gives rise to slender, diamond pointed spermatozoa.

In bacteria, the bacillus anthracis shows the evolution of fission into spore-generation, whether it lives in animals, or is cultivated in very rich food, as strongly-oxygenated serum, its growth being seven or eight times more rapid in the latter (*Toussaint*).

In the Gregarinæ we have reproduction by the concrescence of two individuals, and also by simple fission. In the Acinata, a species of Infusoria, we meet generation by the concrescence of different individuals; and the two other processes are also possible in these organisms.*

The various grades in the differentiation of spermatozoa from ovules are found in Pandorina, a sort of algæ, in Zygulmaceæ, and in Funaria hygrometrica.†

The spermatozoön is thus more differentiated than the granules of the ovule to which it corresponds, while the ovule itself has its analogue in the seminal vesicle which encloses the spermatozoa, and this explains the physical superiority of the male. However, the ovule, as well as the spermatozoön, and every particle of either, should be adequate to reproduce the entire organism of either sex, and so they are whenever most of the conditions under which the parents were evolved can be gathered in a small compass; but this is only possible in low forms of life.

In the male and female of the human species we have, as it were, two widely differentiated parts of a compound organism,

* Gegenbauer: Comparative Anatomy, §§ 69–70.
† Bessey: Botany.

and the union of the spermatozoön with the ovule brings these elements back to their former homogeneous condition, capable of reproducing either parent. The fact that many more male children are conceived may be ascribed to this higher integration of force in the male, and to an indirect mode of natural selection also; while the greater mortality of male fœtuses greatly depends on an inferior physical development of the female, as obstetricians will find by noting down the sex of the child in difficult labors. Sexual selection has probably much to do with this also. For, while strength and physical development in the male are great incentives to love from the other sex, the same attributes disparage females in the eyes of the males of the human species.

Any change that an animal undergoes under influences of climate, food, diseases, etc., is also undergone by each of its cells, but specially by the reproductive cells, which do not form part of any differentiated tissue. It could not be otherwise, since all modes of force act at all distances and through all substances. Hence, nothing opposing, the shape, the size, the character, the features, the infirmities, and the entire individuality of the parent will be developed in the progeny. But there are many modes of force opposing this, as the circumstances of time, place and surroundings are changed, the food different, etc. In case the generating substance does not participate in the differentiation of the parent, it must reproduce something more like the ancestors. This is atavism—a common occurrence.

According to the laws of generation, then, peculiar impressions received by the pregnant mother also affect every cell of the fœtus, and that sometimes accounts for those unduly developed faculties, and for idiosyncrasies in the child whose mother has been thus affected during child-bearing. This satisfactorily explains most of what are called cases of maternal impressions, even those extraordinary cases in which the children of a second husband all resemble the first husband. This is the more plausible, when we find that mental impressions are purely dynamical phenomena. This also accounts for a few peculiarities of monsters. This inheritance has been thoroughly demonstrated by the late experiments of M. Mason, of the Royal Academy of Belgium, who succeeded in producing atrophy of the spleen in

the progeny of rabbits by removing that organ in the parents. In the same way, the external conditions being attended to, a naturalist has produced all sorts of monsters in chickens, though maternal impressions were impossible here.

If we admit the fact that each animal cell has its nervous system, and all the physiologieal functions, though undeveloped, as explained above, their reaction to all modes of force accounts also for the most extraordinary cases in which children have been known to inherit the vivid perception of facts which their mothers observed while they were carrying them. That is a direct transmission of sensations through the senses of the mother to the brain of the fœtus. Of course, we all know of the inheritance of instincts, as that of birds for building nests, which is a cause of individual existence, as Darwin has shown; and Lindsay, in his valuable work on Comparative Psychology, also demonstrates a transmission of general knowledge, the result of experience in either the father or mother.*

The fact that every cell in the human body is properly an organism, and consequently must be conscious, explains those authenticated cases in which people have received various impressions otherwise than by way of their special senses.

In mentioning the modes of force whose ensemble is called the course of nature, we refer to gravitation, which does not apply only to planets and to inorganic matter, but also to animals, and regulates our every movement; to chemical affinity, by which every substance in the animal body is formed, maintained or renewed; to heat and to electricity, both of which are factors in life; to light, etc., etc.; to natural selection, which plays such a wonderful part in the evolution of animals and plants; and to that redistribution of matter and force on earth by man, at the expense of his own energy, something equivalent to a new creation, and in perpetual opposition to the previous state of things, although its outgrowth. It is also true that a variety of modes of force and their bearings on life and generation, are unknown to us in our present capacity for knowledge.

"There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy."

* Lindsay: Mind in the Lower Animals, Vol. I.

ARTICLE III.

TRADE MARK PHARMACY. By HORATIO R. BIGELOW, M.D., Washington, D. C.

An attempt is being made to foist upon the American Medical Association the responsibility of discriminating between manufacturing pharmacists, in their endorsement of certain time-honored preparations. Coupled with this is a malevolent and ulterior motive of creating an open rupture between the physician and druggist. The gravity of the two purposes is my excuse for dwelling so frequently upon their ultimate issues, and for publishing my views in the different medical journals of the North, South, East and West. It is of superlative importance that the intelligent practitioner should thoroughly digest these matters in all their manifold phases, especially in those salient features which immediately concern his conceded prerogatives before the next meeting of the Association at St. Paul. As an educated body of men, whose lives are devoted to the amelioration of suffering and whose practice is governed by well-defined laws of self-respect, of courtesy and of justice, we are unwilling to be the puppets of any misguided manager who seeks to press us into his service as actors upon the stage of trade rivalry and trade jealousy. Our calling is professional rather than commercial. If we err in matters touching upon practice, we are to be judged by a tribunal of our peers, and not by laymen, who may be actuated by selfish or ignorant motives. Neither is it consonant with good sense or good taste that those outside the pale of legitimate medicine should dictate to us in the purely professional regulation of fees or of therapeutical polity. As a common brotherhood we are banded together for self-protection, for self-enlightenment, and for the regulation of certain ethical laws which shall govern our inter-communion. We pretend to be able to adapt all of these to suit our necessities, and we are perfectly able to manage our own affairs, without the presumptuous interference of mischief-makers. We are accustomed to construct our prescriptions upon well-thought-out principles, and to order such drugs as experience has taught us are of the greatest efficacy. We recognize our in-

debtedness to modern pharmacy for valuable additions to our armamentarium, and for the pleasant and palatable preparations of nauseating medicaments. Certain members of our own profession, together with others honored in society, recognized as men of high sense of honor, and many of them graduates of our learned universities, have entered into business for the sole purpose of furnishing pure drugs of an unalterable standard, in such forms as may not disgust our patients. These elegant products of their zeal and industry have added luster to our practice, and have proved of measureless value. The good name, fame and personal reputation of the manufacturer is indissolubly connected with his wares. The convalescence of our patients depends upon the strict purity and unvarying quantity of these preparations: our own reputation hinges upon our faith in them. To protect all these common interests, and to prevent fraud and deceit, the pharmacist trade-marks the products of his laboratory. What gross injustice and what danger to us, to our patients, and to the manufacturer, would result upon a discontinuance of the system. The law is protective in all its ramifications, just as the sworn policy of the Government is protective. The Government is a mere verbal synonym of an aggregation of individuals. The protective tariff is framed in the interest of home industries. So the individual member of this corporate body protects his industry, and the law and the people endorse his action. Physicians must recognize that for them there can be no other protection than this trade-mark system. It is the only safe guarantee. Can it be supposed that the nestors of medicine—the names that we most love to honor—would endorse in medical literature, these additions to elegant pharmacy, simply for any selfish delight in seeing their names in print? It would be well for us and for our children, if this incoming wave of grotesque "New Remedies" could be stayed and if the few deserving new discoveries, could come to us guaranteed by trade-mark as to purity and by endorsement as to efficacy. Let us take personal interest in the matter, and protect, as we are in duty bounden, the common interest of the profession.

ARTICLE IV.

STUDIES IN THE MEDICAL BOTANY OF SOUTHERN ILLINOIS.

By J. M. G. CARTER, A.M., M.D.

III.

Asclepiadaceæ, or Milkweed family, cannot be said to contain any very important remedies. Still, there are at least two plants of this order growing in this portion of our State which should be mentioned as possessing medicinal virtues. These are common milkweed or silkweed (Asclepias Cornuti, A. Syriaca) and pleurisy-root (A. Tuberosa). A. Cornuti or A. Syriaca is anodyne and expectorant, alterative and cathartic in its properties. It has been recommended in scrofulous affections and bites of snakes and insects. It may be used in decoction, any part of the plant being used; the dose of which is a tablespoonful *pro re nata.*

A. Tuberosa (butterfly-weed, pleurisy-root) has properties similar to the preceding—diaphoretic, anodyne, expectorant, cathartic, and slightly astringent. It is used in pleurisy, pneumonia, consumption, diarrhœa, dysentery and rheumatism. It has been used as a gentle tonic for the stomach, and has been considered of value in the exanthematous diseases. The dose of the powder is twenty grains several times a day. It may be administered in decoction or infusion, in the proportion of ℥j to Oj. Dose tablespoonful every hour or two.

The division Apetalous Exogenous plants contains some valuable remedies.

The Pokeweed family (Phytolaccaceæ) is represented in our section by Phytolacca Decandra (common pokeweed). This plant, called pokeweed, pigeon-berry and garget, is not confined to low grounds, as is sometimes said, but may grow anywhere if the soil is rich. Its action is emetic and cathartic in large doses. It is said to have some narcotic properties. Its substitution for ipecac cannot be recommended. It has been used internally in chronic rheumatism and granular conjunctivitis with good results. It has been used locally in inflamed mammæ, and in certain cutaneous diseases. I have seen the infusion so used in scabies

with apparent success. The infusion has also been recommended in piles. "An ointment, prepared by mixing an ounce of the powdered root or leaves with half a pound of lard, has been successfully used in psora, tinea capitis, and other cutaneous diseases." A tincture may be used in rheumatism, in teaspoonful doses thrice daily. The powder may be used in five-grain doses as an alterative, and in twenty-grain doses as an emetic.

Of the Buckwheat family (Polygonaceæ), we have a representative in Polygonum Hydropiper (common smartweed). This plant is little used in this region, because of its irritating properties; but it is said to have diuretic and other valuable medicinal virtues. It has been used in amenorrhœa and other uterine troubles with asserted beneficial results. The leaves may be used in powder (gr. iij to xx), infusion or decoction (℥j to Oj), the dose of which is a tablespoonful thrice daily.

Several varieties of Dock, all belonging to this family, are found in Southern Illinois. Among these may be mentioned yellow or curled dock (Rumex Crispus), pale dock (R. Brittannicus), and bitter dock (R. Obtusifolius). R. acetosellus, or common sheep-sorrel, is very abundant, and when fresh is a pleasant refrigerant in fevers. The Docks are astringent, tonic, alterative, and some of them slightly laxative — resembling rhubarb.

We have an abundance of Sassafras, a tree of the Laurel family (Lauraceæ). The Sassafras Officinale, or Laurus Sassafras, is used with us more as a demulcent and diaphoretic than as an astringent. It is a very common remedy in colds, in the form of hot tea, taken at bedtime. The bark of the root, the part generally used, has been supposed to have stimulant properties. "The complaints for which it has been particularly recommended are chronic rheumatism, cutaneous diseases, and scorbutic and syphilitic affections." The oil may be given; or, which is more common, the tea or infusion *ad libitum*.

The Mistletoe family (Loranthaceæ) is represented, in our woods, by Phoradendron Flavexeus (American Mistletoe). This poisonous plant has not been used as a medicine, so far as I am aware, but would produce results, probably, similar to European mistletoe, which was once considered to be a powerful antispas-

modic, and a valuable remedy in palsy, epilepsy, and other nervous diseases.

Ulmaceæ (Elm family). I think Dr. Gray, in his Manual of Botany (Ed. of 1867), has confounded two varieties of elm under the name "Ulmus Fulva." He calls this tree "Slippery or Red Elm," and says that it has a "tough, reddish wood, and a very mucilaginous inner bark." The slippery elm of this region has a whitish, brittle, mucilaginous inner bark; the wood near the bark being also whitish, but reddish within, and easily split. What we call red elm has a tough, reddish bark, used largely for bottoming chairs. It has an astringent taste. The reddish wood is very tough, it being scarcely possible to split it. We do not use the bark of the red elm medicinally, but the slippery elm bark is freely used as a demulcent. It often has an excellent effect in nausea and vomiting, acting as an anti-emetic. I have found frequently that the water of the bark would quiet an irritable stomach which morphine, calomel, bismuth and oxalate of cereum had failed to relieve.

The Bread Fruit and Fig family (Artocarpeæ). There is one representative of this, growing chiefly in old fields—that is the Morus Rubra (Red Mulberry). This berry is a laxative, and the juice is grateful in fevers. In the form of syrup it is valuable as a gargle in sore throat.

Urtica Dioica, or common nettle of the Nettle family (Urticeæ) grows abundantly in Southern Illinois in lanes and by roadsides. I have never made any use of this remedy, but it has been supposed to be diuretic and astringent, and has been employed in diseases where these properties might accomplish good, as in kidney diseases, hæmorrhoids, etc. Uterine hæmorrhage has been successfully treated with a decoction of the plant (℥j to Oj) in teacupful doses *pro re nata*. It has been used with asserted success in consumption, jaundice, worms, and locally in palsy. The young shoots are sometimes boiled and eaten by the people for scurvy.

Cannabis Sativa, or C. Americana (Family Cannabineæ) is found growing in waste and cultivated grounds. This may be employed in the form of the officinal preparations, or the flowering tops may be used similarly to hops as an anodyne poultice. It

is of especial value in neuralgia and rheumatism. This plant has the same virtues as C. Indica, so fully described in text-books.

The four preceding families belong to the natural order Urticaceæ, of which they are sub-orders. To the same natural order (Urticaceæ), and the preceding sub-order (Cannabineæ), belongs Humulus Lupulus (Common Hop). Although Hop is indigenous to this part of the country, our chief supply is obtained from gardens, where it is cultivated. It is used very largely in domestic and professional practice as an anodyne, in the form of poultices. In severe headaches I very often secure relief by directing a hop pillow to be placed under the head. Restlessness may be controlled in the same way. Humulus has some value as a tonic in dyspepsia and intermittents. For its tonic effect, hop tea may be used. The remedy is useful in nervous tremors, wakefulness, and delirium tremens of drunkards.

Order Juglandaceæ (Walnut family). To this family belong the Walnuts (black and white), Juglans Cinerea (Butternut, White Walnut) and J. Nigra (Black Walnut). Both grow in our section of the State, the latter very abundantly. The leaves are valuable in scrofula. While J. Cinerea is the only officinal variety, J. Nigra is very likely quite as reliable a medicine.

I have frequently observed the laxative effect of the kernel of the black walnut. The inner bark of the root of either variety may be used in decoction for the same purposes as the leaves or oil. In large doses any of these parts may be used for catharsis; the mildness of the action resembles that of rhubarb.

Carya (Hickory), another member of this family, is represented by several varieties in our vicinity. I have never used the bark or leaves of this tree, nor indeed any other part, in medicine; but I have seen it used by the common people as a tonic, astringent and detergent. Those who have used it have faith in its virtues. The leaves and inner bark, probably that of the root, are most valuable. As a tonic and astringent, they are used in the form of decoction; as a detergent, as decoction or poultice. The C. Sulcata (Western Shell-bark Hickory) is the only variety I have known used; but the following varieties are found here, and are perhaps just as valuable as remedial agents:

C. Olivæformis (Pecan-nut); C. Alba (Shell-bark Hickory); C. porcina (Pig-nut); C. Amara (Bitter-nut).

Order Cupuliferæ (Oak family). The inner bark of any of the oaks may be used for medicinal purposes. There are a great many varieties of oak (Quercus) in Southern Illinois, several varieties of which I have myself examined. I have been informed that there are more than twenty varieties of the white oak. I shall name only a few of the best known varieties. They are as follows: Quercus Alba (White-oak); Q. Obtusiloba (Post-oak); Q. Macrocarpa (Bur-oak); Q. Bicolor (Swamp White-oak); Q. Humilis (Chinquapin-oak); Q. Imbricaria (Shingle-oak); Q. Aquatica (Water-oak); Q. Nigra (Black-jack); Q. Falcata (Spanish-oak); Q. Coccinea (Scarlet-oak); Q. Tinctoria (Black-oak); Q. Rubra (Red-oak); and Q. Palustris (Pin-oak).

While the bark of any of these may be used, and many of them are used by the people, only Q. Alba and Q. Tinctoria are officinal. These have both tonic and astringent properties, and may be used in either indication. The decoction is frequently recommended as a bath for debilitated children, with a view of toning up the skin and strengthening the system. The chief use I have made of oak bark is as an astringent in hæmorrhoids. I have used it where ordinary remedies had accomplished little good, and have been very much pleased with the results. I direct that a strong decoction or infusion be made, and that the part be bathed three or four times a day. Usually only a few days are required to produce a cure in any case that can be relieved without an operation.

The Willow family (Salicaceæ) is represented by several varieties in Southern Illinois, the most important of which are Salix Nigra (Black Willow), and S. Babylonica (Weeping Willow). The bark of these trees contains the active principle, salicin, from which salicylic acid may be obtained. A decoction of the bark is a good remedy in malarial fevers and rheumatism. It has tonic and astringent properties, and may be used as a substitute for Peruvian bark. It has the antiperiodic effect of quinine, and has been used with success in intermittents; but its power is inferior to that of the sulphate of quinia. "The decoction of

willow has been found beneficial as an external application to foul and indolent ulcers." The powder or decoction of willow bark may be used in the same doses as cinchona.

Although not so prolific of medicinal plants as the class to which all the preceding remedies belong, still, the class of Monocotyledonous or Endogenous plants contains several remedial agents growing in Southern Illinois. I shall mention only a few of them.

Order Araceæ (Arum family). This family is represented by two common medicinal plants which I shall mention: Indian Turnip and Sweet Flag or Calamus.

Indian Turnip (Arisæma Triphyllum) has been used in asthma, whooping-cough, chronic catarrh, chronic rheumatism, and as an alterative and tonic in various cachexiæ in emulsion. It is considered stimulating to the skin and lungs. In the form of a syrup or honey it is valuable in aphthous sore mouth of children. The root should be partially dried before using, to expel some of the acrid properties. In the form of emulsion the root may be given in doses of gr. x to xxx, beginning with the minimum dose. The decoction may be used as a fomentation in diseases of the lungs where counter-irritation is indicated.

Sweet Flag (Acorus Calamus) is quite abundant in portions of our section. The plant, the root or rhizome of which is used, is an aromatic, and may be so used with children in colic and flatulence. It is a valuable adjuvant to cathartic medicines. It is useful in debility or torpor of the alimentary canal, and as a general systemic stimulant tonic. It may be given in the form of decoction or infusion (℥j to Oj, aq. bul.), the dose of which is a wineglassful. Children frequently like to chew the root. It is supposed that this plant was known to the ancient Greeks under the name acorow.

Cypripedium, of the Orchis family (Orchidaceæ), is represented in this vicinity by several varieties, three of which, C. Candidum, C. Parviflorum, C. Pubescens, are used as medicinal agents. All these, called White Lady's Slipper, Small Yellow Lady's Slipper and Large Yellow Lady's Slipper, respectively, are perhaps of equal value. The rhizome is the part used. Cypripedium is a mild stimulant to the nervous system, being valuable in the

treatment of hysteria, hypochondriasis, neuralgia, etc. It may be given in the form of powder (gr. fifteen) tincture or infusion.

Iris family (Iridaceæ). Iris Versicolor (Larger Blue Flag) grows quite plentifully in this portion of the State. The rhizome is the part used. The powdered root, if kept in bottles protected from the air, may retain its virtues for several months or a year, perhaps longer. Its medical properties are cathartic, diuretic and emetic. It is useful in dropsy. It may be used in powder, decoction, infusion or tinctnre. The dose of the powder is gr. iv to xx.

This is only a moiety of the medicinal plants of Southern Illinois, but perhaps the most important are included in these brief studies.

ARTICLE V.

INJURIES OF THE EYE. Clinical History of some recent Cases in the Practice of C. A. LAMBERT, M.D., Surgeon in Charge. Goshen, Ind., Eye and Ear Infirmary. Reported before Elkhart County Medical Association, December Meeting, 1881.

Case I.—*Traumatic Aniridia.*—Mr. J. W. J., æt. twenty-six; occupation, teamster; reported at office October 19, 1881.

History.—October 11, eight days ago, while at work skidding logs, was accidentally struck a violent blow by a skid, fracturing malar bone at outer canthus, and cutting the cuticle so as to produce considerable hæmorrhage. The eye must have received at the same time much of the force of the blow. He was knocked to the ground and stunned, and came near vomiting after recovering from the concussion.

Status Præsens.—Wound over malar bone healed. Can feel injured bone, and trace fracture of malar bone well into orbital plates, above and below. Complains of ciliary, temporal, and general hemicranial neuralgia, loss of appetite, restlessness; the neuralgic pain is very acute. Eyeball, T+2. Sclera greatly injected. No rupture of cornea nor sclerotic. S=O. Cornea

clear. Iris completely gone; lens dislocated upward and backward well into vitreous, and completely opaque; cannot detect any rupture of capsule. The lens inclines backward at an angle of about 30°; aqueous very cloudy, and contains strips of coagulum. By oblique illumination can, inferiorly, discern a dark red ring, but cannot get any red reflex. There are general symptoms of choroiditis.

Treatment.—Eserine sol., and dry compress for ten days, when patient was discharged, with eye in the following condition. Light enters the eye readily at lower margin of lens, and with ophthalmoscope can get a brilliant red reflex. Can count fingers at five feet, when held vertically and well above level of the eye. I expected to have to remove lens, but the eye has remained quiescent up to this time, three months after the injury; and in case the patient returns, I respectfully invite some suggestions from the readers of this report, and they will be thankfully received. I am satisfied the iris did not escape from the eye, for there was no rupture of cornea or sclerotic, and I suppose the iris is in the fundus, and will prove a source of future trouble. Then, again, as the lens has nothing supporting its present position but the vitreous, it cannot fail to act as a future source of mischief to the eye. The fine question arises, of the propriety of its removal when the iris is completely gone.

Case II.—*Hæmorrhage into Anterior Chamber from Traumatism.*—Mr. Jacob Groff, æt. forty-three.

History.—Received injury to left eye two days ago, while hauling logs. He struck out at an unruly ox, and the whip-lash came home to him, striking the left eye; says that the blow on the eye made him sick, and that he came near vomiting, and that the eye became blind at once.

Status Præsens.—Temporal and ciliary neuralgia. Lachrymation, S=0. Anterior chamber filled with a blood coagulum. Cannot see any of the iris.

Treatment.—Compress and atropia for ten days. Eye thoroughly recovered. S=$\frac{20}{20}$.

Case III.—Peter Surfus, æt. fifty-seven; occupation, farmer.

History.—Four days ago, while feeding flax-straw into the cylinder of a threshing machine, and just as he was stepping

aside to give place to a relief, a piece of split flax-straw, about one-fourth inch long, flew from the cylinder with such tremendous force as to penetrate the cornea.

Status Præsens.—Circumcorneal injection, some photophobia and lachrymation, and some slight ciliary pain; could see the piece of straw resting on anterior surface of iris, and directly across the pupil, in a horizontal position.

Operation.—Patient anæsthetized with chloroform; applied fixation forceps; rotated eye a little inward and upward, and then introduced a straight iridectomy knife to its full width into outer and lower quadrant of corneo-scleral formation; allowed the aqueous to escape freely, anticipating that the straw would follow at least a few lines toward the incision; but the contrary happened—the straw receded. I then introduced a pair of iridectomy forceps, with the beaks tightly closed, and by a very patient wriggling movement, and carefully pressing down the iris, the forceps at last reached the straw. I felt that I had but this one chance, and congratulated myself that I was able to seize the straw and withdraw it on the first effort. We took the precaution to instil sol. atropia before making the incision. The usual dressing, as in iridectomy operation, was applied, and the eye made a complete and rapid recovery. S=$\frac{20}{20}$.

Case IV.—*Traumatic Lens Extraction and Iridectomy.*—James Mc., æt. twenty-one years; occupation, farmer.

History.—Three weeks ago, while currying a horse, received injury to one of his eyes. The horse suddenly raised his limb, and the knee struck the young man's eye a violent blow.

Status Præsens.—Three weeks after injury, has a partially absorbed blood coagulum in anterior chamber, which extends from the wound up to and into the pupil, hiding corresponding portion of the iris; wound partially healed. T–3. S=$\frac{1}{20}$. Pupil dilated upward under use of atropia; attached somewhat below. I think the lens has escaped from the ball; can get no reflex from the fundus. The blow ruptured the cornea around margin, from base to vertical meridian around to outer extremity of horizontal, and extending into sclerotic in same course for 3‴.

Treatment.—Tonics; ferri et ammoniæ citratis in port wine, collyr. atropiæ sul., shade for the eye, and cautioned him of any

excesses. April 22, wound nearly healed; hæmorrhage being rapidly absorbed; iris has an appearance as though an iridectomy had been made at lower border at the time of the injury. Lens certainly has escaped; vision improves; can see choroidal discoloration in scleral wound. Patient can, with this eye (the right one) count fingers and see quite small objects. The lens escaped through wound in cornea and sclerotic. There is no retinal trouble; the ball is not sensitive, but is somewhat atrophied; but remains quite natural in appearance, and sight constantly improves.

Case V.—*Paralysis and Loss of Sight from Injury.*—Master Chas. H., æt. fourteen years; healthy.

History.—Had received injury five weeks ago to right eye; was struck accidentally with a stick on outer and upper portion of globe; accident was followed by violent spasms, and frequent vomiting for some twenty-four hours after injury.

Status Præsens.—Exophthalmos; iris widely dilated; lids discolored, and complete ptosis. S=0. Has ciliary and temporal neuralgia. Vitreous hazy; chronic retinitis; has paralysis in second, third, fourth, sixth, and ophthalmic branch of fifth, with its branches, lachrymal, frontal and nasal; the branches of nasal, ganglionic, ciliary and infra-trochlear. Lids and eye-ball completely immovable.

Treatment.—Comp. syr. phos. ferri quiniæ et strych.; collyr., atropiæ sul.; but the chief reliance was on a current of electricity used twice each week. Condition March 25, has regained all motions of lids and eye-ball excepting upward; no other deformity. Pupil dilated. Has white atrophy of optic papillæ. S=0.

Case VI.—*Paralysis of all the Muscles of Lids and Eye-ball.*—John Mann, æt. nineteen years; farmer; healthy.

History.—Two weeks ago, when at home, and while groping around early in the morning, in search of his boots, he accidentally, when stooping, jammed the lower quadrant of the left eye against the spool-holder on the sewing-machine. The blow made him violently sick for about twenty-four hours.

Status Præsens.—Complete paralysis of all the muscles of motion of eye-ball and lids; marked ptosis and exophthalmos. S=$\frac{20}{20}$.

Treatment.—Comp. syr. phos. iron, quiniæ et strych., and a current of electricity twice each week. After three weeks' treatment, the effects of the injury passed entirely away, and the recovery was perfect.

GOSSYPIUM HERBACEUM.—The following are the results of a series of experiments upon the physiological action of this drug, by J. Charles Martin, M.D. With frogs a large amount of the drug was necessary to produce definite results, 20 to 30 M. of the fluid extract being required. Stupor, inattention to surrounding objects, lowered perception of impression, and diminished muscular activity were the prominent symptoms developed. Nerves such as the sciatic preserve their irritability, as do the muscles also. Sensibility is only gradually lost as larger amounts are given. Reflex action is not destroyed, and there is no change in cardiac function, neither depression nor stimulation.

When similar injections were made in frogs, the medullæ of which were divided, and the sciatic nerve on one side of each isolated by ligating all the tissues, reflex functions, motility and sensibility were found to be unimpaired, and were exactly the same in each limb. Therefore it is concluded that the stupor noted in the former cases was due to the cerebral effect of the drug.

Experiments upon pregnant rabbits, which usually conceive and abort with equal facility, showed no effect from the medicine upon the uterus. Even toxic doses produced no hyperæmia or other effect on this organ. The symptoms manifested were gradually increasing stupor, and in the same ratio impairment of motility and sensibility.—*The Am. Jour. Medical Sciences, January.*

Clinical Reports.

ARTICLE VI.

DENTIGEROUS CYST. By EUGENE S. TALBOT, M.D., D.D.S., Lecturer on Diseases of the Mouth and Jaw, at Central Free Dispensary, Rush Medical College.

GENTLEMEN:—This patient, David T——, comes to us from Wisconsin for treatment. He is a farmer, twenty-eight years of age; has always been healthy. About five years ago, he noticed pain and swelling at the septum of the nose, and at the apex of the roots of the central incisors. The teeth are quite loose, and tender to the touch. The tumor has continued to grow until now the face is quite disfigured. You observe the lip is distended to such an extent that the teeth and gums are quite visible. Upon raising the lip, you will readily see the large, dark-colored tumor, extending from the canine on the right to the canine on the left side. By placing my fingers on either side of the tumor and gently tapping it, the movement of fluid is apparent at the opposite finger. I then press upon the hard palate with one finger, which forces the fluid against the finger under the lip; which proves it to be a sac containing fluid, and that absorption of the anterior portion of the maxillary bones and palate bones had taken place. Is this an alveolar abscess? Let us see. Upon examining the teeth carefully, I find no cavities, and by reflecting the light upon them with a mouth mirror, I discover no discoloration. These facts, together with the slow growth of the tumor, prove that it is not an alveolar abscess. We pass the exploring needle into it to ascertain the kind of fluid it contains, which is safe when there is no doubt about the character of a tumor. We see, upon the removal of the needle, a thick, yellowish, serous

fluid at the opening. With the bistoury, I make free incision from one side to the other, and discharge its contents. Upon raising the lip and reflecting the light into it, we see a white, glistening body at the floor of the cavity. With forceps I remove a supernumerary tooth, which will be passed around for examination. We frequently find one of the permanent teeth imbedded in the jaw, causing tumors of different varieties, which are easily diagnosed, from the fact of its absence from its natural position; but a dentigerous cyst caused by a supernumerary tooth is very rare.

THE ALIENIST AND NEUROLOGIST, edited and published by Dr. C. H. Hughes, of St. Louis, has completed its second volume, and has thus far fully verified the early promise of its publisher to render practical, for the benefit of the general practitioner, the interesting, widening and instructive departments of psychiatry and neurology.

We are advised by the publisher that the journal is financially on a secure footing, it having been well sustained thus far, and that it will begin its third year with a better table of contents than any hitherto offered, and with flattering professional encouragement and substantial financial aid. The third volume begins January 1, 1882. Subscription, $5.00 per year. The trial of Guiteau brings forcibly to mind the necessity of a discriminating knowledge of psychiatry such as the *Alienist and Neurologist* endeavors to impart.

OL. SANT. FLAV.—This has been employed largely for the last twenty years in the treatment of gonorrhœa, and urethral and vaginal discharges generally, says R. Park, M.D., in *The Practitioner*, and to stop a discharge he believes that it is the most specific drug, but it should be continued a fortnight after the latter has stopped. It is efficient in both acute and chronic cases. It certainly has a drying effect upon all the mucous surfaces, when healthy or diseased.

Society Reports.

ARTICLE VII.

THE CHICAGO PATHOLOGICAL SOCIETY. Stated Meeting held at the President's residence, Nov. 28, 1881.

Dr. Henry M. Lyman, President, related a remarkable case of

RUPTURE OF THE HEART.

The patient, a man sixty-two years old, had had several attacks of cerebral rheumatism, but no acute attack of the disease. He was rather plethoric. Last summer he suffered from dyspnœa and syncope at various times. During the autumn he went shooting ducks, but a paroxysm obliged him to return, and he felt a severe pain in his chest. At one A. M. severe paroxysms set in, and seemed to arise from the stomach. There was no angina pectoris. An hypodermic injection of ¼ gr. of morphine was given, and partly relieved the pain. Before morning the patient got up, and while he sat on the chamber-pot, he fell over dead.

Post-mortem.—Thorax and abdomen looked normal. As soon as the pericardium was laid open a heart clot came into view. The cardial muscle was degenerated. The left ventricle was rent an inch in length near the septum. Laying open the ventricle, there was no atheroma, nor valvular disease. The portion of the clot nearest the rent was white, and gave evidence of being older than the rest. The exertion at the hunting ground must have been the first step in laceration, which afterward continued; the effort at defecation having proven the last cause of the rupture.

Remarks.—The general impression is, that rupture of the heart

must necessarily be sudden, and cause instantaneous death. In this case, life must have been prolonged about fifteen hours after the beginning of the injury. The cavity of the pericardium was pretty well filled, though not distended. The walls of the heart at the point of rupture were rather thick. This case was one of fatty degeneration, and the heart was overloaded with fat besides. Fatty degeneration of the walls of the heart, the doctor remarked, was often met with after death, especially from anæsthetics; yet death did not always take place, and, as the disease had no symptoms, it was almost impossible to be aware of it before an autopsy was made.

GUBLER'S THERAPEUTICS.

Dr. H. M. Lyon reviewed orally the late American edition of Gubler's Therapeutics. This work has recently been translated. The author had one of those well-developed minds which had given the subject the most careful study. He had made a very thorough study of botany, and his works were numerous, especially in physiological chemistry, and allied sciences. He had been connected with many important societies, and his works had often been rewarded by medals and prizes. His book was especially valuable to learned practitioners, and he had carried the study of the subject to its higher laws.

The arrangement of division was not very well marked, however. The elimination of medicine was highly considered, and a large part of the therapeutical effects of drugs was referred to the change brought on by elimination.

The tolerance of drugs was also treated of at length in regard to tobacco, arsenic, opium, etc. The antagonism of medicines was treated briefly and in an able manner; and Gubler denied the fact of idiosyncrasies, except as something rare. We are now in the midst of a great change in chemical nomenclature. Organic compounds, as gluesides, hydro-carbons, etc., give us many intricate compounds. Hence, in the forming of alkaloids, it was doubtful whether the resultant compound always partook of the elements in its therapeutical workings. Such instances as the bromide of quinia were considered.

As to the classification of medicines, Gubler reviewed several:

said it was impossible to make an absolute classification, and proposed a physiological one which was not any better. He illustrated the correlation of forces in the use of coffee, opium, etc., which prevented an excessive expenditure of forces. These medicines add more force to the system, as it were. Ainstie had made the same remarks in regard to the tonics, which are different from stimulants.

The hypodermic use of aconitia, bromo-hydrate of quinia and of jaborandi had been introduced or generalized through Gubler's works, and the bromo-hydrate of quinia never gave rise to any abscess, nor to cinchonism.

Dr. H. M. Lyman was conversant with the book. It was full of suggestive ideas, some rather old, yet every one became interested in its reading.

ARTICLE VIII.

CHICAGO MEDICAL SOCIETY. Dec. 5, 1881. Dr. E. Ingals, President, in the Chair.

MALARIAL KERATITIS.

Dr. F. C. Hotz read a paper with the above title, and recorded a few cases from his notes and from memory. In ordinary cases of keratitis, he kept the eye shut, and covered up with charpie, retained in position by a bandage. Superficial ulceration could thus be made to heal very readily. In describing malarial keratitis, he said that the ulcer of the cornea is raised, and may creep on the entire surface; there is severe pain, photophobia and lachrymation. It extends for a few weeks, and reparation may require a few months. This takes place through an elongation of the deeper blood-vessels. This ulcer is just as characteristic as the patches found in the mouth in syphilis. Malarial or remittent fever may or may not accompany or precede this affection; as a rule it does, and quinine is especially successful as a constitutional treatment, even after local treatment has failed.

Case I.—Æt. twenty-six, came under treatment in January, 1881. Five days previous to this, patient had a chill. Kera-

titis set in, and a linear abrasion of the epithelium formed. He prescribed a lotion of atropine, and saw the case five days later. There had been no relief, and the inflammation was the same. Quinine was administered, and the patient began to improve immediately. February 5, the inflammation was gone, leaving a slight opacity of the cornea. One grain of quinine had been administered hourly.

Case II.—Æt. thirty-five, a conductor on a railroad. Patient had a severe keratitis of a week's standing when he consulted the doctor. He was directed to use atropine ointment and wear a bandage; but the inflammation increased during the following week. He was then administered quinine, and in six weeks he was well; the opacity had cleared away.

Inasmuch as these opacities are slow to clear, an early diagnosis becomes very important. He was persuaded that in malarial keratitis, the ulceration had a typical appearance, and he related other cases confirming his views.

Dr. W. T. Montgomery had also met a few characteristic cases of the disease under consideration, and besides employing ordinary local means, he had given four grains of quinine three times a day. The opacity had cleared.

Dr. E. L. Holmes had had the same class of patients, but he had been in the habit of treating all of them with quinine since his early days of practice. He also gave the same remedy in cases of chronic discharges from the ear, and in chronic affections generally. Of late, he had not given quinine quite so often, yet he prescribed it whenever local means failed, and in obstinate conjunctivitis. Some authors had discovered parasites in these diseases, but he had never observed them, and believed they might be secondary to the inflammation. The doctor reported a case of tetanus caused by a foreign body (a splinter of wood) in the orbit. October 12, 1881, a boy fifteen years old climbed up a scaffold six feet in height, and fell on a splinter of wood perpendicularly stuck in the ground. The splinter entered the left lower eyelid, and there was free bleeding from the nose. The doctor saw the patient a few days later, removed a piece of wood from the wound, and dressed it with a lotion of salicylic acid. The right eyelid began to inflame, and after a while was more

involved than the left, which seemed partly restored, while the right eye was markedly exophthalmic. Patient had double vision. The wound discharged very little pus, but as much more flowed through the nostrils. After a week, the patient noticed that he had difficulty in opening his jaw, and the next day he had trismus, which increased in severity for a week longer, when Dr. Hotz saw the case. Deglutition was difficult, and fluid passed into the larynx. The conjunctiva was slightly œdematous, and the internal rectus muscle seemed affected. There was optic neuritis. By probing the wound, he felt a piece of wood extending to the right orbit, outward and backward, two inches deep; and a thin lamella of broken bone could also be felt in the wound. He succeeded in removing it, together with the piece of wood. Some improvement set in. The oxophthalmos decreased, but the improvement was only of a short duration. The next day the trismus was more pronounced, and the respiration became confined to one side. Patient died the next day in opisthotonos. The splinter had passed from one orbit into the other, through the left lachrymal bone, close to the cribriform plate. There was some emphysema of the orbits and of the face.

ARTICLE IX.

CHICAGO MEDICAL SOCIETY. Stated meeting, Jan. 16, 1882. Dr. E. Ingals, President, in the Chair.

Dr. L. H. Montgomery read a lengthy report of the preceding meeting, which was accepted after a few corrections. These reports of the Secretary are intended to give a *résumé* of all papers which have come before the society, and are very valuable.

Mr. Stanton, of the *Chicago Medical Review*, read the paper announced for that evening, on

OPENING AND DRAINAGE OF JOINTS,

by Drs. Chr. Fenger and E. W. Lee.

From the earliest times, suppurative arthritis had been looked upon as a very serious disease, which sometimes caused the death

of the patient, and generally left permanent injury. There were cases on record in which a spontaneous opening of the cavity of a joint, with escape of the pus, had been followed by recovery. However, although thus indicated, the means at hand did not legitimate the drainage of such suppurating cavities before the introduction of Dieulafoy's aspirator.

It was found, however, that aspiration, beneficial in a few cases, was useless in a majority of them, and the antiseptic method of treating abscess promised far better results. In reporting the following cases, the authors of the paper did not believe that they could give anything new to the profession, since similar cases had already been reported; but they believed that a better acquaintance with their results would induce other surgeons to follow it, and, in future, we could entirely dispense with amputation in such cases, and, if opened early, the chances were that a certain amount of motion at least would be insured; but they considered the use of the spray, and other particulars of the method taught by Lister, a *sine quâ non* for a successful operation.

More than ten years ago, five cases of drainage of the joints had been reported, and since that, a few sporadic cases had appeared in medical papers at various times. The most superficial joints, that is, those that were of easiest access, naturally suggested the first trials; as the elbow, the knee and the ankle. Only a few of the other joints had ever been opened. In the knee, a diagnosis was easy, and a slight amount of fluctuation could be detected. Two of their cases were of that joint.

Case I.—A. S., female; admitted to the County Hospital May 30, 1879. Two weeks before admission, inflammation, with swelling of the knee, had manifested themselves, with an intense pain, which went on increasing, and fever set in. June 5, her temperature was 103°. Some pus had been aspired from the knee, and June 16 an elastic bandage was applied. June 29, joint was aspired once more, and July 1 the temperature was 105.2, and vomiting occurred.

The patient having been anæsthetized, Dr. Fenger made an incision in either side of the patella, passed in a fenestrated rubber drainage tube, which was retained in position by sutures, and

washed the cavity of the knee with a solution of 2.5 per cent. of carbolic acid. The temperature fell, the pain was relieved, and re-dressing was done July 4; all in accordance with the antiseptic method. Patient improved from the day of the operation. July 21, the drainage tube was removed, and the wound allowed to heal. October 3, the plaster cast was applied to immobilize the limb, and the patient obtained about as good a leg as the sound one, with a fair amount of motion. The patient, two weeks after the operation, had thronbosis of femoral vein, which gave rise to a high fever; and later she had a diarrhœa which retarded her final recovery.

June 5, 1880, she was quite well.

Case II.—E. M., female; had acute rheumatism, followed with a suppurative inflammation of the knee-joint. Aspiration was resorted to twice without marked results, and it was decided to operate.

July 14, the patient having taken ether, the knee was opened on either side of the patella under the spray, and irrigation was made through a drainage tube, in the same manner as in the first case. July 16, it was re-dressed, and the outer half of the drainage tube was removed, and the rest of it was taken away July 19. August 7, the limb could be bent at right angle; November 22, this leg was almost as strong as the other one. In this case there had been hardly any fever during the treatment.

The operation in such case should be made in the following manner:

Make a short incision half an inch from the border of the patella, and pass a probe through the incision and through the joint to the other side, about half an inch from the border of the patella on that side; then make another incision, cutting on the point of the probe. Pass the drainage tube from one incision to the other; wash the cavity with a solution of carbolic acid, 2.5 per cent., and attach safety pins to the ends of the drainage tube, after soaking in a solution of carbolic acid. Then, after dressing the knee antiseptically, suspend it in a fenestrated splint. Re-dress as often as necessary, under the spray, and remove the drainage tube after no new pus is formed. Then put

the limb in a plaster cast, let the patient get a high soled shoe for the healthy limb, and let him go about on crutches. After five weeks, remove the plaster cast.

Operations on the ankle joint are not so favorable, partly because the capsule of the joint forms two pouches, one anteriorly and the other posteriorly.

Case I.—N. B., æt. thirty-seven, came under treatment July 20, 1880. Had suffered from poli-articular rheumatism, and had suppurative inflammation of the left ankle joint.

July 25, the pain was intense, and other symptoms rendered the operation imperative. After administering ether, two incisions were made on either side of the joint, anteriorly to the malleoli; the cavity was washed, the drainage tube and dressing applied. The drainage tube was removed after six weeks. September 15 the opening had healed. There was some stiffness left.

Case II.—P. G. B., æt. twenty-two; male. In April, 1879, a plank struck his left ankle. The injury passed away; but three months later, pain, swelling, and inflammation set in. He was admitted to hospital in September.

November 15, the joint was opened in the manner above described, and the drainage of the cavity insured. There was no denuded bone found. The drainage tube was removed in a week, but had to be re-inserted December 19 for two weeks. Six months later there was limited flexion, but the limb could not be used. Six months after this, the patient was yet unable to walk without crutches, and there was necessity for another operation, but he would not submit to it.

Case III.—A. S. had rheumatic inflammation of ankle joint, with suppuration, and was operated on September 25, with all the precautions described in regard to the other cases. October 8 the tube was removed in part, and the rest of it taken away October 15. October 24, another incision was necessary, and the drainage tube, then re-inserted, was afterward removed November 24. It had to be re-inserted in January. Further particulars of the case will be reported later.

Notice that in such cases, the life of the patient is sometimes saved by the operation. The fever and the pain immediately abate, and improvement follows. In operating on the ankle, the

doctor believed that two drainage tubes and four openings, two in front and two behind the malleoli, would answer better than the method here followed. It would involve no additional danger, if made under the spray.

An early operation saved some mobility, and prevented a disintegration of the articular extremities, which, after it had taken place, would be very likely to cause some anchylosis.

DISCUSSION.

Dr. Roswell Park asked whether, in cases of chronic synovitis, with sero-fibrinous exudation, without pus, and in which repeated injections of 20 mm. of a 2.5 per cent. carbolic acid solution had been recommended—whether in such cases drainage of the joints was ever indicated?

Dr. Fenger said that in such cases the operation was not so imperative; yet he would not hesitate to open into the joint if repeated aspirations failed of curing the arthritis. However, it was mainly in cases where the cavity contained pus that drainage became necessary. This, made with antiseptic precautions, he considered devoid of danger. After opening into a joint, the doctor said it was always important to ascertain that no communication existed between it and some other cavities, and it was always better to make a counter-opening.

Dr. R. Tilley mentioned the fact that some of the most successful surgeons in Europe had discarded the use of the spray, and even that of carbolic acid, and had obtained as good results without it. He wished to have the opinion of some of the members present.

Dr. Fenger would not abandon the use of carbolic acid, because he had been so satisfied of the results obtained with it; no substitute could take its place, and the danger of pyæmia, always present in hospitals, could be avoided by its use. It was a fact that the best surgeons used it, and that the best results claimed for it were in connection with the filthiest hospitals. Advices to the contrary he considered as unreliable. It was true that Lawson Tait had obtained good results in ovariotomy without the use of the antiseptic method; but he did not consider that in

such cases there was as much tendency to suppuration as in almost any other class of operations.

Dr. E. W. Lee, one of the authors of the paper, said that, although an admirer of Lister's method, he was obliged to abandon the spray in self-defense five months ago. The results obtained with it had always been satisfactory, but it affected his health, and every operation prostrated him. The spray sometimes gave away, or some other particular of the method was neglected, and this accounted for failure in the results, which otherwise were very satisfactory. He did not believe that any other method could be substituted for it, and that where free incisions were made without antiseptic precautions, there was always more suppuration, and a necessity for more frequent dressings. The doctor alluded to the packing of suppurative cavities with iodoform, but he believed some degree of poisoning had followed its use in many cases.

ARTICLE X.

MICHIGAN STATE BOARD OF HEALTH. Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.

The regular quarterly meeting of this Board was held January 10, 1882, at its office in Lansing; the full Board being present. The Secretary presented his quarterly report, showing some of the work in the office during the past quarter. The quarter has been a very busy one, made so, in part, by the numerous outbreaks of diphtheria, scarlet fever and small-pox in the State, which has required much correspondence and the sending out of many documents. The compilation and issuing of the weekly bulletin of health in the State is now so systematized as not to take as much time as at first. It is published in probably two hundred newspapers in Michigan. In response to a request, fifty-seven health officers of villages have begun to make weekly roports of diseases. The Board reaffirmed the demand for these reports from health officers of cities. To each place in the State where diphtheria, scarlet fever, or small-pox was reported present, a letter was written to the health authorities, giving full

instructions and suggestions how to prevent the spread of the disease. Documents containing elaborate and particular directions have been sent for free distribution throughout the vicinity. Each officer was requested to make a special report on the epidemic under his care, and some of the reports show how by determined action a contagious disease may be stamped out. The number of communications written during the quarter was 1,459. The number of diphtheria documents distributed was 29,000; of scarlet fever documents, 5,000; of general rules for restriction of contagious diseases, 6,000; reprints of weekly bulletins, 7,000. As showing the necessity for inspection and disinfection of immigrants, their clothing, baggage, etc., and especially for a system of surveillance to their destinations, a statement was made by the Secretary, of the introduction of typhus fever in Benzie county by Norwegian immigrants. The disease made its appearance over sixty days after the arrival of the immigrants, and spread quite freely (not being reported at the time or treated as a contagious disease by the local authorities), causing many cases of illness, and at least three deaths. The importance of inspection of immigrants at Port Huron, and of keeping those believed to be liable to spread communicable diseases under surveillance until their destination was reached, and then placing them in the watchful care of the local board of health, was freely discussed. As this Board has no funds available for such a purpose, the subject was referred to the President, Secretary and Dr. Lyster to confer with the National Board of Health, and take such action as is possible.

A report by Hon. LeRoy Parker, relative to duties of health officers in verifying diagnoses of contagious diseases, was read and ordered printed in the Annual Report. Mr. Parker reported the following: In Gaines township, Genessee county, a child of Mr. B. died of what a doctor called malarial fever, and did not report the case to the board of health, though it seems probable that it was really diphtheria. A neighbor and wife, Mr. and Mrs. B., assisted in preparing the corpse for burial. About the same time a child of Mrs. S. died from "sore throat," not reported as "dangerous to the public health," and some of the children of Mr. B. attended the funeral. Soon after Mrs. B. was

taken sick with diphtheria, and in turn thirteen out of fourteen members of the family had it, and seven out of ten children died. The board of health promptly isolated this household, but the attending physician's error in diagnosis, or failure to report the first case, was fatal to the hopes of that family. In this connection the Board adopted the following preamble and resolutions:

WHEREAS, It is often difficult to recognise mild cases of diphtheria, or to distinguish such cases from a simple pharyngitis or laryngitis; and,

WHEREAS, Such mild cases of diphtheria often communicate a dangerous and fatal form of diphtheria;

Resolved, That it is the duty of physicians and householders in reporting diseases dangerous to the public health, and of local health authorities in their efforts to restrict such diseases, in every case to give the public safety the benefit of the doubt.

Resolved, That suspected cases of dangerous diseases should be reported, and precautionary measures should be taken.

Drs. Kellogg and Avery were appointed a special committee to report on the present knowledge of diphtheria, and Dr. Lyster was appointed a special committee to report upon the present knowledge of typhoid fever.

Mr. Parker reported that persons guilty of removing contagious disease placards from their houses could be punished, under the law which made the house in which the contagious disease was, a hospital, if declared so by the board of health, and subject to their rules and regulations. All rules and regulations of a board must first be published, then penalties may be inflicted for any violations.

Dr. Avery, as special committee on the subject, made a report relative to the overflowed lands in Gratiot and Clinton counties, and presented a resolution from the Board of Supervisors of Gratiot county. In accordance with the report, the Board adopted a preamble and resolution, as follows:

WHEREAS, The Board of Supervisors of Gratiot county has passed resolutions asking this State Board of Health to investigate the subject of the sickness caused by the overflow of Maple River, because of the dam at Maple Rapids, and "to advise the removal

of said dam as being detrimental to the health of the communities living in the vicinity of said river;" therefore,

Resolved, That the Board of Supervisors of Gratiot county be informed that this Board has already had an investigation made, and from the report of such investigation is convinced that the dam at Maple Rapids causes a nuisance, and advises that, in case the owner of said dam will not remove the same, and thus abate the nuisance caused by the overflowing of land along said river, a bill in equity should be filed against the owner of said dam to compel him to remove the same.

The Secretary was directed to correspond with persons in some city in the western part of the State, relative to holding a second Sanitary Convention this winter. One will be held at Ann Arbor, February 28 and March 1. These conventions are held in accordance with invitations received from citizens, and under arrangements made by a local committee acting with a committee of this Board.

Dr. Hazlewood reported on the inspection of summer resort hotels as regards danger from fire, and asked if the present law providing for such inspection was not sufficient. Dr. Baker thought the law should be amended so as to take the inspection duties away from the political officers and place them among the duties of local boards of health. The question was referred to Mr. Parker, committee on legislation in the interests of health.

The Secretary presented a report of work of local boards of health, showing much good work done during the past season in the restriction of contagious diseases. He read letters showing the action of local boards of health with contagious diseases; one from J. R. Thomas, M.D., health officer of Bay City, relative to diphtheria; one from W. G. Elliott, M.D., health officer of Pontiac, relative to scarlet fever; and one from Foster Pratt, M.D., health officer of Kalamazoo, relative to small-pox.

The Secretary also read a *résumé* of work of other State Boards of Health, and it showed that typhoid fever was very widely prevalent; that small-pox was very prevalent in the Northern and Northwestern States, and that intermittent fever was present in Connecticut, Massachusetts and Rhode Island.

The next regular quarterly meeting of the Board will be April

11, 1882. There will probably be a special meeting of the Board in connection with the Sanitary Convention at Ann Arbor, February 28 and March 1, 1882.

METEOROLOGY AND CROUPOUS PNEUMONIA. — During the last three years, Dr. August Seibert has been carefully studying the combined influence of the various elements of the weather in producing croupous pneumonia. His conclusions have been deduced from a study of six hundred cases, observed in children under fourteen at the German Dispensary, New York.

By examining the meteorological phenomena of the three days prior to the reception of each of the cases, it was found that in seventy-eight per cent. the barometer was more or less strongly falling; in more than fifty per cent. it had fallen below the mean; in eighty-four per cent. the temperature was below 50° F.; in twenty per cent. the daily range of thermometer was 20° F. or more; in only four per cent. was there a strong falling thermometer; in fifty per cent. the wind was northerly; in thirty-three and one-half per cent. northwest, and in sixty-seven per cent. its velocity was fifteen miles an hour or more.

On comparing the lines of mean humidity and minimum temperature in comparative charts, it was found that in the months when pneumonia was the most frequent, the temperature was low and the humidity high. The greater the space between the lines, the more pneumonia; the less the space, the less the pneumonia.

From the facts gathered it may be concluded that—

1. A strong fall in the barometer;
2. A low thermometer;
3. A great velocity of wind;
4. A high humidity; and
5. Northerly winds, especially northwest, seem to favor the production of this disease.—*Am. Jour. of the Med. Sciences.*

Foreign Correspondence.

ARTICLE XI.

VIENNA, DEC. 26, 1881.

MESSRS. EDITORS:—Medical matters in this city seem very much the same to the writer as they did twelve years ago, when I attended lectures and private courses at the General Hospital for fourteen months. By some accident, I happened on my arrival in the city to meet a few American students at my hotel, who assured me everything was quite dull, and that I would see all of the city I wanted to in a few days, and that it did not come up to their expectations as a place for medical study. I found most of them to belong to a class of American students which is quite too numerous for our good name; who, while they enjoy the credit of completing their medical education abroad, spend more of their time at concerts, dance-houses and gaming-tables than at the hospital, and in many ways go contrary to the expectations of tender parents and anxious guardians. One young man was finding fault with the chambermaid about fleas in his bed. She told him he had brought them from the hospital. He replied it could not be so, as he had not been at the hospital for six weeks. Vienna holds out some attractions to a certain class of students more enticing than its medical advantages, and it is far better for the average young man to have practiced a few years, and become thoroughly convinced that he loves his profession, and to have found out his weak points before coming abroad. There are many industrious young men here, however, I am happy to say, who work early and late, and make the most of every opportunity. Oppolzer, Hebra, Dumreicher and Skoda, whom I listened to before, are dead, but supplanted

by Bamberger, Albert, Kaposi and Schrötter, who fill the chairs with perhaps as much ability and acceptance.

Albert, the successor of Dumreicher and colleague of Billroth, although comparatively a young man, is very popular, and his clinics are more frequented, I should judge, than Billroth's. Both of them are poor speakers, much of their lectures being inaudible, while they are surrounded by such a crowd of assistants that it is almost impossible for an ordinary student, from his seat, to see anything of the progress of an operation of any importance, and the lucky one who sits inside the ring as guest for two weeks may reap more benefit than a regular attendant for a whole winter. I think this detail may not be without interest, as I know many are seriously disappointed at what they are able to see in these, as in some other departments.

They have here, as in some other places I have visited, a regulation that retires a professor when he has reached the age of sixty, which I think in some respects wise; which, although in some cases it deprives the student of the accumulated experience of age and years of teaching, relieves the authorities of the unpleasant responsibility of asking the resignation of some who have outlived their usefulness, of which the venerable professor is not always the best judge. When a man, like Prof. Arlt, instead of talking from his profound knowledge and extensive experience, sits down and reads his lecture from one of his not too recently printed volumes, it is time to retire; and I believe this is his last year.

As is well known by many, there are here professors ordinary and extraordinary; the one belonging to the faculty proper, and attendance upon whose lectures is obligatory upon the student intending to graduate, while the same is not required with the other; and consequently, while he may have the same clinical material, he has but few followers, and really offers far better opportunities for observation and study than the faculty professor. For instance, while Arlt's clinics are crowded, Yaeger has generally but half a dozen, and material abundant, and such is the case with some others, and while some of the regular faculty are clamoring for larger audience-rooms, new amphitheaters, and various other accommodations for their hearers, students are

clamoring for more professors in some of the crowded departments, and better facilities to see, hear and learn. At present, the authorities seem to give but little heed to either petitioner.

Happening in to Prof. Carl Braun's obstetrical and gynæcological clinic, I heard the report of a patient who had died in six days after confinement, from fatty metamorphosis of heart and other organs. She had, in all, about fifty eclamptic convulsions. These came on before delivery, which was effected with forceps; without, however, influencing the spasms. She then had hot bath and purgatives, without effect. Then thirty grains of chloral were given, which checked them for two hours, when they recurred, and the dose was repeated until two drams had been taken without benefit, or only of a temporary character. Then she was bled several ounces, to have the blood tested for ammonium carb., when the convulsions ceased for several hours, and recurred. The examination did not reveal ammonium carb. The convulsions recurred, and these and other remedies were used, alone and in combination, but the pulse grew weaker and faster, until the patient expired. The lecturer remarked that the patient did not die of medicine, albuminuria, septicæmia, etc., but fatty metamorphosis. She had had the best of treatment known to the medical profession; and had the Almighty attended the case, He couldn't have saved her. The lecturer had given up venesection for many years, having no faith in its efficacy. Few patients recover who have convulsions before delivery.

Another patient was presented, upon whom an operation for recto-vaginal fistula had been performed without success. A second operation had been performed, with same unsuccessful result. He proposed to operate a third time, by first cutting from the vagina completely through the perineum, to the rectum, and make, as it were, a complete laceration, and also by cutting through the posterior part of rectum and sphincter; hoping by this method to secure a result, which by most careful manipulations he had failed to secure.

Such fistulas never occur in the wards of the hospital, or very seldom occur, and if they do, always heal themselves. It is only in aggravated, neglected and badly handled cases that an operation is necessary. As an illustration of the practice of the hospital

in such cases, a patient was brought in who had been in labor for some hours, and in whom there had been no progress for an hour. Forceps were applied and, as laceration was threatened, the labia were cut on either side and delivery without rupture effected. The vagina was washed out with carbolic acid, the incisions closed with sutures and the vulva dusted with idoform. The patient was then carried back to the ward. I forgot to mention that this patient was somewhat œdematous, the urine contained albumen, and convulsions were feared, but none occurred.

The next patient was one with a deformed pelvis, upon whom craniotomy had once been performed and had been recommended in the event of a second pregnancy to return at the fourth month for artificial and premature delivery. This had been safely accomplished without any complication, and the patient, at the end of eight days, was ready to leave the hospital.

Much more attention is given to antiseptics in this department than when I was here before, as it was quite uncommon then to wash out the uterus or vagina with carbolic acid, and students gave far less attention to themselves as conveyors of infection than now. A preserved specimen, consisting of the neck of uterus and large epithelioma, which had been removed from a woman several years before, was passed around the class. The patient made a good recovery and became pregnant. The os was so hard and contracted from the cicatrix that premature delivery was induced. She was again pregnant; the os had been scarified a number of times and dilated, and now she was pregnant again; and the question arose as to whether she should be permitted to go to her full term of confinement. His experience had not been very gratifying with such cases; nevertheless, as the patient was quite anxious to properly terminate her pregnancy, and as the os was in a far more pliable and elastic condition from the treatment she had received, he was quite inclined to grant her request. This is but a sample, in brief detail, of what one sees and hears at his clinics daily, and gives even an inadequate idea of the advantages to be enjoyed in this department. Frequent allusions are made during these lectures to New York and Chicago men of prominence in these departments, while their obstetrical and gynæcological instruments are frequently shown and used.

Nevertheless, as is well known, it is not the teachers in this department we come here to see, as we have the best in the world at home. Give the student at home the material and the opportunity to use, as we already have in some branches, and he need not come to this far-off land to complete his education.

ROCKFORD, ILL. WM. H. FITCH, M.D.

THE MENTAL PHASE OF "COLD-CATCHING."—It is noteworthy as a curious yet easily explicable fact that few persons take cold who are not either self-consciously careful or fearful of the consequences of exposure. If the attention be wholly diverted from the existence of danger, by some supreme concentration of thought, as, for example, when escaping from a house on fire or plunging into cold water to save a life, the effects of "chill" are seldom experienced. This alone should serve to suggest that the influence exerted by colds falls on the nervous system. The immediate effects of a displacement of blood from the surface and its determination to the internal organs are not, as was once supposed, sufficient to produce the sort of congestion that issues in inflammation. If it were so an inflammatory condition would be the common characteristic of our bodily state. When the vascular system is healthy and that part of the nervous apparatus by which the caliber of the vessels is controlled performs its proper functions normally, any disturbance of equilibrium in the circulatory system which may have been produced by external cold will be quickly adjusted. It is therefore on the state of the nervous system that every thing depends, and it is, as we have said, on the nervous system the stress of a "chill" falls. Consciousness is *one* element in the production of a *cold*, and when that is wanting the phenomena is not very likely to ensue. It is in this way that persons who do not cultivate the fear of cold-catching are not as a rule subject to this infliction. This is one reason why the habit of wrapping up tends to create a morbid susceptibility. The mind by its fear begetting precaution keeps the nervous system on the alert for impressions of cold, and the centers are, so to say, panic-stricken when even a slight sensation occurs. Cold applied to the surface, even in the form of a gentle current of air somewhat lower in temperature than the skin, will produce the "feeling" of a "chill." Conversely a thought will often give rise to the "feeling" of cold applied to the surface—for example, of "cold water running down the back." Many of the sensations of cold or heat which are experienced by the hypersensitive have no external cause. They are purely ideational in their mode of origination, and ideal in fact.—*London Lancet.*

Domestic Correspondence.

ARTICLE XII.

BOSTON LETTER.

MESSRS. EDITORS:—It is somewhat doubtful whether the new building for the Harvard Medical School will be ready for occupancy before next winter. Three stories have already been erected. The location is excellent. The present school building stands in a squalid portion of the town which must have surprised many a visitor. The new structure is located in the midst of the best quarter of the city, having fine churches, public buildings and private dwellings of the better sort in its immediate neighborhood. It is midway between the Massachusetts General and City Hospitals, to both of which students resort for clinical instruction. The new school building, therefore, will in many ways, aside from modern improvements, offer increased conveniences to teachers and students. Surgical operations will be done, and clinical surgery and clinical medicine will, as now, be taught in the two hospitals. Practical pathology will likewise be taught in a building specially constructed for the purpose in the grounds of the Massachusetts General Hospital. Dissection, however, will be carried on in the new building. Three hundred thousand dollars have already been raised to defray the expenses of construction.

The pathological building to which I have referred is probably unique. Its peculiarity consists in the details of the apartment in which the post mortems are made. It need not be said that the one difficulty in this feature of medical instruction is created by the formerly unavoidable odor from the cadaver when under the knife. This objection applies principally to first year men.

In order to vanquish this objection, Dr. Henry J. Bigelow brought his singularly apt ingenuity to bear, and his experiments resulted in perfect success.

The principal object being the disposal of foul gases, Dr. Bigelow determined to set in action, in some way, a series of draughts; and knowing that when a cadaver is opened the disagreeable odors arise chiefly from the trunk, he saw that the draught must act not only upon this section of the body, but must act *downward*. His conception resulted in a table of iron gradually depressed toward the center. It rests upon a hopper-shaped box, also of iron, supported in its turn by a cylinder which telescopes into the head of a larger cylinder, in which, near the floor, it revolves by means of a shoulder. Table and hopper are one. The former is accurately covered by a movable apron of zinc or oxydized copper, having in its center an opening measuring 20 by 28 inches, and corresponding to the position occupied by the trunk of a subject.

Into this opening fits a concave grating of polished steel. The hopper and the double cylinder,—the latter extending into the cellar below,—have a porcelain lining. In the basement, immediately under the center of the table, is the trapped opening of a large drain, which receives all fluids and such small solid matters as can pass through the meshes of the grating, the hopper and cylinder being much larger than the grating in the table. But it is the gases and odors for which this arrangement was conceived. Their escape requires a description of the most ingenious feature of the whole. Some feet down the cylinder, and nearly half way to its lower end, is a large aperture mouthing into a lateral shaft placed just below the floor of the post-mortem room. This shaft runs horizontally, and terminates fifteen feet away in a special chimney which passes upward through a small room adjoining the autopsy department. In this ante-room is a window let into the chimney. Opening the window, you find in the chimney a series of ten gas jets. Lighting these, and waiting a few moments for the warming of the air in the chimney, you hold a bit of burning paper over the opening in the table, and are surprised by the force with which the flame is drawn *down* the hopper. And this is the manner in which, during the exam-

ination of a body, gases and odors leave the room, its air remaining pure. A similar arrangement, on a smaller scale, is applied in an upright glass case with sliding sash, which encloses the sink, and is always kept shut. Herein, too, are gas-burners and a connection with another flue. During the examination, cleansing, or temporary disposal of an organ, this sink is used, and all odors are thus carried away. Hot and cold water serve the convenience of the examiner.

The autopsy table is supplied with every convenience to secure cleanliness, a small hose being the chief. The floor of the room is of asphalt, the washboards are glass, so that the whole place is frequently deluged with water, which runs off by means of scuppers and gratings which communicate with the main drain. Near the table is a glass case furnished with instruments of every sort; there is a large ice chest for the preservation of specimens; also a convenient room devoted to the preparation of specimens and microscopic work, and many other conveniences which render the place as nearly perfect as one can well imagine. The building is a neat structure of brick. The amphitheater is of moderate size, finished in chestnut, and abundantly supplied with light and warmth. Can you do better than to imitate this room in Chicago?

In the same district, and not far from the new building of the Harvard Medical School, a hospital for children is also in process of construction. The corner stone was laid June 13, 1881. The land embraces 31,000 feet. The building will cost $100,000, and will have every modern improvement. The hospital heretofore has occupied a large dwelling-house, but has outgrown its quarters. Thus far 1,590 patients have been treated, the institution being thirteen years old. The medical and surgical staffs are composed of some of our best men, and the interest of the laity in this hospital is warm and constant. The hospital has a very efficient auxiliary in the Ladies' Aid Association. They not only take upon themselves the entire care and support of the Convalescent Home of the hospital, but contribute largely to the latter in services, money and effects. When these buildings are finished you shall have a description of them.

I am happy to announce the publication of a new book by a

Boston physician. This is not so common an occurrence with us as to be unworthy of mention. Indeed, a volume of five hundred pages from the pen of one of our physicians but rarely appears in Boston. Our men are workers, hard workers in fact, but their pens are less prolific than those of physicians in other cities; why, it would be difficult to say. It is a Boston peculiarity. The author of the book to which I refer is Dr. Henry W. Williams; its title "Diseases of the Eye." It is charmingly written, is free from many of those technicalities which render works on the eye such dull reading to the general practitioner, and its subjects are presented with such simplicity of style and clearness of diction, that it will become a necessity even to those who do not make the eye a specialty. In short, to make use of that threadbare, hackneyed, but convenient phrase, the book "supplies a want long felt." Dr. Williams is professor of ophthalmology in the Harvard Medical School, and president of the Massachusetts Medical Society. He is well known as a distinguished oculist, and no physician of our city has warmer friends than he.

Another event which the members of our profession naturally regard with a feeling of pride, is the election of Dr. Samuel A. Green to the office of mayor. A fair indication of his character and of the esteem in which he is held, is the fact that Dr. Green is not a party, but a *citizen's* candidate. He entered upon his duties unfettered by promises to men or party, and his acts during the first fortnight of his administration evince an independence which, in these degenerate days of party influence, is truly refreshing. For years Dr. Green has been city physician, and his deeds of unselfish kindness and faithful performance of duty will not soon be forgotten. He has been one of the overseers of the poor, whilom chairman (without salary) of the Public Library, and in other and various ways he has shown a devotion to the interests of the city which makes his record almost exceptional.

A sad experience coming upon us within a few days has been the loss by death of Drs. Thomas B. Curtis, John Bacon and Edward Reynolds. Dr. Curtis was president of the Boston Society for Medical Improvement. His death was sudden and unexpected. Although but thirty-nine years of age, Dr. Curtis was considered one of the most brilliant and learned of the

physicians of Boston. Among the men of his years, he had no peer in his scholarly knowledge of medicine. His loss is irreparable. The society over which he presided have decided upon a portrait in oil, to be hung in the society hall as a fitting and deserved memorial of their lamented president.

Dr. John Bacon was less active in the medical world. Some years ago he retired from the chair of chemistry in the Harvard Medical School. Since that time he has lived a life of such seclusion as to have become almost forgotten in the onward rush of the lives of busier men. He died at the age of seventy years.

Dr. Edward Reynolds was a genial and most lovable old gentleman. Formerly very active, a pupil of the great French and English teachers of sixty years ago (Astley Cooper, William Lawrence, Dupuytren and Bichat), he was one of the first men who ever lectured on surgery in the East. In conjunction with Jacob Bigelow, D. H. Storer and O. W. Holmes, he originated and for many years taught surgery in the Tremont Medical School. He established the Massachusetts Eye and Ear Infirmary in 1815, and its success was due almost entirely to him alone.

As a *raconteur* he possessed most enviable qualities. Two years ago, being then eighty-six years of age, Dr. Reynolds one evening entertained one of our medical societies with reminiscences of deceased colleagues and former friends. The easy flow of his language, the polish of his style, his ready and fertile memory, his apt and elegant choice of words, his eloquence and wit, were as surprising as they were fascinating. Those who listened to him on this occasion will not soon lose the memory of the charm of his diction and delivery. Until the end his mind was clear, and he died the quiet, beautiful death of a beloved old man, of a physician who lived a long, earnest, fruitful, faithful life. His son, Dr. John P. Reynolds, is professor of obstetrics in the medical department of Harvard University.

BOSTON, Jan. 12, 1882. * *

ARTICLE XIII.

LAMOILLE, Jan. 24, 1882.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER:—The order of our Board of Health, requiring the children of our public schools to be vaccinated, has been very thoroughly obeyed in some towns of our county, while others have almost entirely ignored it. As a consequence of the order, and of a case of small-pox in the autumn, we have had more vaccinating to do this winter than ever before in the same period of time. I have successfully vaccinated three hundred patients, using pure bovine virus in every case but two. It is in connection with the effects of this same bovine virus that I write this letter, as some of its results are somewhat peculiar and may be worthy of note in your paper. All the points used have been purchased of Sargent & Co., of Chicago. I vaccinated one hundred patients in November last, that run a typical course, with two exceptions, one a child not previously vaccinated, and the other a young lady previously vaccinated and having a typical mark. They each had four days of severe fever, accompanied by pains in back and limbs, soreness of eyeballs, etc., followed on the third day by a copious eruption of a dark purple color, intersected by streaks of sound skin of a yellowish white shade. The eruption was in some respects like that of rötheln, but much darker in shade. It lasted about four days, then peeled off without desquamation; the arms at the same time were intensely swollen and almost black in color, with numerous yellow vesicles. I felt some concern at first, but they yielded to mild treatment, and were especially relieved by enveloping the swollen arm in vasaline dressing, recovering with an ulcer at the point of vaccination which was somewhat obstinate to heal.

Since the coming on of cold weather such cases have increased to an unpleasant extent; for the last fifteen days at least one in ten presenting the conditions described, only in a more exaggerated form—the fever being most intense and the eruption being more confluent in character. I neglected to say that eruption in all cases has been confined to parts of body and limbs covered with clothing, none appearing upon the face and but little upon the

hands. So far all the cases have yielded to a covering of the arm affected with a dressing which excludes the air, a little alterative and laxative medicine. No serious consequences have resulted as yet, but the severity of its action is creating some alarm and a wide-spreading objection to vaccination, and some concern on my own part, for fear I may get some serious complications on my hands. I am not informed as to whether other practitioners are having the same trouble. GEO. J. RICE, M.D.

THE DE QUINCY HOME FOR INEBRIATES, conducted by Drs. H. H. Kane and W. H. Vittum, has been removed to Fort Washington, New York City.

THE unusual amount of sickness in this city during the last few weeks, and the extraordinary demands which have, as a consequence, been made upon the members of the medical profession, have taxed severely many practitioners. Among those who are now ill, may be named Dr. E. O. F. Roler, who has been compelled to go to the South for a brief respite from his arduous duties as an active obstetrician; Dr. D. A. K. Steele, of the new Medical School, who is now recovering from a severe prostration; Dr. W. S. Haines, who has also been obliged to temporarily absent himself from his active work in the chemical laboratory of Rush Medical College; and Dr. Alexander Fisher, who, though compelled more than a year ago to abandon his professional career in consequence of the infirmities of age, is now lying seriously ill.

DURING the closing week of the past month, a veteran physician and pioneer in this Western metropolis, Dr. L, D. Boone, went to his long rest. Dr. Boone was a descendant of the famous Daniel Boone, of Kentucky.

Reviews and Book Notices.

ARTICLE XIV.—AMERICAN NERVOUSNESS. By G. M. Beard, A.M., M.D. 12mo. New York: G. P. Putnam's Sons. 1881.

Before any one can conceive of matter as center of forces, intersections of forces, or condensations of modes of force, he must first take a view of several of the elementary substances, look at them as separate entities, and see in what they resemble one another. He has to do the same with all modes of force before understanding the co-relation of forces. Before one is capable of understanding how species have been evolved by natural selection, he must acquire a few general notions regarding various species of organisms; and before a physician is prepared to investigate neurasthenia, he must be acquainted with nervous diseases in general. And so with *evolution* in all things. It is simply a deeper study, an insight into points of little bearing on the course of nature, since their results become sensible only after eons, though perpetually at work. Hence it is no wonder if we daily meet men of very limited knowledge, who tell us that they have attained the maximum point in wisdom; they are evolutionists; and they wonder how it happened that so many have borrowed their ideas. Yet, on practical questions, these men are found lacking in data, investigation or even memory. They only know the bearings of evolution.

Dr. Beard, in assuming the creation of nervousness in America, and relating its epidemic spread over Europe since, and in alluding to the legions of writers who have borrowed his ideas, lays himself open to as severe criticism as he has met. But evolutionists are so fashionable to-day, that naturally his books on nervousness—small, cheap, and devoid of technicalities—should

enjoy many new editions. They are at least a higher grade of pamphlets than the average advertising media of those specialists who treat *manhood lost*, although addressed to the public, as are the latter.

We will review this work in a spirit of evolution, down from evolution of matter to the evolution of insanity, and up to the evolution of the immortal soul, if necessary; but, granting that the leading principles of the book may be correct, we will mention all the deficient links, if possible, which should become a philosophical work, even when addressed to the American public.

This is a *supplement* to a *smaller* work, which we had the pleasure of reviewing a few months ago. But it is also the etiology of the disease considered in the other volume. This is retrogressive evolution, at least, if not disintegration in book-making. This new volume is also of a more philosophical (?) and popular character than the other. Follows an epitome of said philosophy.

1. Nervousness, the author says, is strictly deficiency or lack of nerve-force. It would not be difficult to show that the reverse is at least as true, and partly by quoting from his works; but every one knows that nervousness is more generally a superabundance of nerve-force misapplied. Thus, the nervous and mental diseases are more developed in those animals whose nerve-force is the greatest, as we see in Lindsay's Mind in the Lower Animals, Vol. II. Nervousness is also most developed, according to Dr. Beard himself, in the higher races, in which the nerve-force is also the greatest. We might also derive proofs from comparative anatomy to show that the author's proposition is very deficient, and that so must be the idea which underlies it, unless the fault is in the mode of expression; and one is inclined to think that such is the case.

2. The chief and primary cause of this is *modern civilization*. This is another paradox. If there is any stimulant and promotor of nerve-force, it is certainly the highest civilization. This the author would probably confirm, and own that his arbitrary division of said civilization into the five characteristics—steam-power, press, telegraph, the sciences, and the mental activity of woman—is at least very heterogeneous and deficient;

and many factors, such as religion, morality, continence, modes of education, and inheritance, have a greater bearing on one's nervousness than the steam-engine, although regarded as secondary and tertiary factors by the author.

3. Indeed, these are harmless, if not interwoven with the modern form of civilization (?).

4. Neurasthenia, evolved of nerve sensitiveness, is the natural basis whence certain physical forms of hysteria, hay-fever, sick headache, inebriety and some phases of insanity evolve. This is an important fact to ascertain.

5. "The greater prevalence of nervousness in America is a complex resultant of a number of influences, the chief of which are dryness of the air (?), extremes of heat and cold, civil and religious liberty, and the great mental activity made necessary and possible in a new and productive country under such climatic conditions." There is much truth in this. "Nervousness, in its extreme manifestations, seems to save one from ataxia, spinal meningitis, and interior spinal sclerosis." "Nervousness of constitution is, indeed, an aid to longevity, and in various ways; it compels caution, makes imperative the avoidance of evil habits, and early warns us of the approach of peril. Probably no great class of people in the world live longer than the professional and business men of America—the very class among whom these nervous disorders are so often found, the class that supplies the victims for our inebriate asylums." "Chewing is very rapidly going out of custom, and will soon, like snuff-taking, become a historic curiosity." Drinking is also on the eve of disappearance. Instead of referring such facts to an increase of nerve-force, far-sightedness, and progress in life and morality, caused by education and will-power, the author refers them to his favorite disease.

Americans, of the present generation, need only small doses of cathartics; and a professional man was unable to bear iron; it made his headache; nor quinine, it made him crazy; nor zinc, it irritated his stomach. "No people in the world drink so little fluid as we. In America pork, like the Indian, flees before civilization."

Constitutional diseases prevent local diseases and *vice versa*. This is a very doubtful proposition.

Early and rapid decay of the teeth; baldness; sensitiveness to heat and cold; thanks to neurasthenia, the Americans are comparatively free from gout and rheumatism.

The eulogy of American beauty by the author is charming, and founded on facts; it almost makes his work one of æsthetics. Dr. Beard assures us that the humorists are in greater demand as lecturers than philosophers, men of science, or of literature; however, we are of the opinion that a popular audience is still better entertained by a circus; but this is not confined to America.

Syphilis is growing milder because of the increasing nervousness of our time. It is comforting news for some to learn that brain-workers enjoy long life, and the chapter treating of this fact is one of the most interesting of the whole book.

In fact, the title, American Nervousness, is ill chosen, unless it means a perspective of the various changes taking place in the higher races, seen through "American Nervousness." As popular reading, although not humorous, this book is very interesting; but it lacks the philosophy of which it boasts. We anticipated that the author would take into consideration the biological fact that many nervous troubles make their appearance in families which are becoming extinct, as some diseases appear in species which are disappearing; that, on the other hand, with a diminution in the number of the offspring, there must be increase of vitality, characterized by longevity, beauty, talents, etc.; and one will question, perhaps with the author, whether neurasthenia is not a quality, a promoter of vitality, rather than a disease. A potent factor, not enough insisted upon, is the fact that a *complete* American individual consists of a few generations, not of one alone; that is, a first generation accumulates money, the next acquire learning, and the third is Dr. Beard's neurasthenic, while on the whole it is certainly the best representative of the highest civilization. H. D. V.

ARTICLE XV.—ARTIFICIAL ANÆSTHESIA AND ANÆSTHETICS. By HENRY M. LYMAN, A.M., M.D., Professor of Physiology and of Nervous Diseases, Rush Medical College; also, Professor of Theory and Practice, Woman's Medical College, Chicago, Ill. New York: Wm. Wood & Co. 1881.

Prof. Lyman has had a task of no small proportions, to group together in a systematic manner the excellences of the different authorities on anæsthesia. That he has performed this task well is apparent to any one who carefully examines this volume.

He has been successful not only as a compiler, but also as a patient, careful and original investigator. He gives the results of a series of experiments on animals and the human subject with chloroform, ethylic bromide, alcohol, ether, amylic nitrite and nitrous oxide. Sphygmographic tracings were taken during the different stages of anæsthesia, which are interesting, if not instructive.

After giving the history and phenomena of anæsthesia, the author discusses the physiology of anæsthesia. This is one of the most interesting chapters in the book. His physiological explanations in regard to sleep and anæsthesia are especially good. He argues that anæsthetic substances diminish or retard the specific molecular movements of nervous or muscular tissues. He says: "When it is remembered that the effect of an anæsthetic is temporary, and that it leaves the tissues in no way different from their original condition, it seems more probable that in the substance of the protoplasm through which the paralyzing agent is diffused, the anæsthetic operates to arrest those chemical changes—chiefly oxidation—that are associated with the normal diffusion of motion throughout the system. It effects no new combinations or decompositions among the molecules; it acts merely the part of a cloud between the sun and the earth, hindering the energies of the one from acting upon the susceptible matter of the other."

This chapter is followed by those on the administration of anæsthetics, inhalers, accidentsof anæsthesia and their treatment, anæsthetic mixtures, anæsthetics in obstetric and dental practice, local anæsthesia, mortality of artificial anæsthesia, medico-legal relations of anæsthesia, anæsthesia by rapid respiration and electricity, and a list of forty-seven anæsthetic substances, with their properties.

The author's style is so clear and even that it it is a pleasure to follow him in his most abstruse reasoning.

J. A. R.

ARTICLE XVI.—A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. L. Smith, M.D. Fifth edition, thoroughly revised, with illustrations.

This is one of the leading text-books on the subject, and is highly recommended by professors to students. Unless one desires to make a specialty of that branch of medicine, it is also all that a general practitioner needs for reference. It is a good supplement to any work on Practice, none of which would be complete without it, or some analogous work. It must not be forgotten that more than one-third of patients are children, and although they must be treated "on general principles," these are not at all sufficient to answer the special circumstances of childhood which give to all diseases very different features from what they have in the adult, not to mention a variety of diseases which are peculiar to childhood alone. The illustrations are only thirty in number, and might as well have been omitted, for, as a rule, they do not elucidate the text of works on Practice, and are not expected to adorn them.

This edition is printed in a smaller type than the previous one, and "leaded," and presents a very good appearance. Indeed, this is a very handsome volume of 836 pages, bound in half Russia, with stained edges, in accordance with a new style of binding, started a few months ago by the publishers: Henry C. Lea's Son & Co., Philadelphia.

ARTICLE XVII.—A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL. In Treatises by various Authors. Edited by T. Holmes, M.A. First American, from Second English Edition, by John H. Packard, A.M., M.D., assisted by a large corps of the most eminent American Surgeons. In three volumes, with many illustrations. Vol. I.—General Pathology. Morbid Processes. Injuries in General. Complications of Injuries. Injuries of Regions. 8vo, pp. 1008, two-columned, half Russia. Philadelphia: Henry C. Lea's Son & Co. 1881.

The case of the late lamented President Garfield has proved that there is a demand for a higher knowledge of surgery, and also of diseases of the mind, in the United States. Should our

knowledge of surgery be considered inferior to that of our English or French colleagues (a conclusion which may not be justifiable), it might be accounted for by the fact that medicine and surgery here have not yet evolved into that higher sphere when one's brain would be insufficient to pursue the study of both.

The list of English contributors contains such names as those of Burdon-Sanderson, Sir James Paget, T. Holmes, C. H. Moore, De Morgan, and eighteen other experienced surgeons, while the American revisers to this volume are such well-known writers as J. H. C. Sims, W. Hunt, James Nevins Hyde, M. Longstreth, S. Ashhurst, L. A. Stimson, J. H. Packard, J. S. Jewell, R. Bartholow, and a few other celebrities.

This work is cyclopædic in character, and every subject is treated in an exhaustive manner. It is specially designed for a reference book which every practicing surgeon should have under hand in cases which require more than ordinary knowledge. The illustrations consist of nine chromo-lithographic plates of great beauty, and 240 wood cuts.

Inflammation, Syphilis, Tumors, Wounds, Fractures, Dislocations and Injuries are all treated in this volume, besides other important matter; and an index is appropriately added at the end of the volume. H. D. V.

ARTICLE XVIII.—A TEXT-BOOK OF PRACTICAL HISTOLOGY, WITH OUTLINE PLATES. By W. Stirling, M.D., S.C.D., With thirty outline plates, one colored plate and twenty-seven wood engravings. Quarto, cloth, pp. 130; $4.50. Philadelphia: J. B. Lippincott & Co. 1881. Chicago: Jansen, McClurg & Co.

This is a book for students, and the outline plates are all intended to be filled by him—a manner of studying which has never been received with favor in the cramming medical colleges now so common. Yet this is certainly the surest means to acquire a practical and thorough knowledge of histology. Such a work is invaluable for those practitioners who delight in the use of the microscope; and the clear type, comprehensive arrangement and accurate delineations lend a charm to a study otherwise

dry and uninteresting. The introduction of this book in medical colleges is very desirable, and should be specially encouraged by professors of histology.

ARTICLE XIX.—INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. H. Green, M.D. Fourth American, from the fifth and enlarged English edition. With 138 fine engravings. 8vo, cloth, pp. 348, $2.25. Philadelphia: Henry C. Lea's Son & Co. 1881. Chicago: Jansen, McClurg & Co.

An old professor of the practice of medicine used to teach treatment in these few words: "Gentlemen, take your pathology and treat the case accordingly." If his students had all possessed the book under consideration it might have easily supplemented the ignorance of the lecturer in matters of treatment; for this is no common work, no hypothetical treatise, but embodies a wonderful amount of knowledge in so small a compass, and treated in such a clear style that every physician should supply himself with every new edition as it comes out.

No late discovery or investigation has been overlooked; and the illustrations are the best that ever accompanied any book on the subject. In few departments of medicine has so much progress been made of late as in that of pathology, supported as it is by the promising sciences of biolology and physiological chemistry, and these lie at the basis of scientific treatment. It will repay most practitioners to peruse this book at least two or three times.

ARTICLE XX.—THE MICROSCOPE AND ITS REVELATIONS. By W. B. Carpenter, C.B., M.D., LL.D., etc. Sixth edition. Illustrated by twenty-six plates and 500 wood engravings. 12mo, cloth, pp. 882. Philadelphia: Presley Blakiston. 1881. Small type.

A passing notice of this voluminous work is all that should be expected. It is acknowledged to be the most comprehensive work on the subject in the English language. The reputation of the author is world-wide, and through his profound knowledge of physiology this work has been made to suit the medical more

than any other scientific profession. It is also indispensable to the biologist, and its researches reach far into palæontology. The reader ought to remember, however, that some assertions met with in this work are based on unascertained facts, and some are opposed to the conclusions of men who, in their special studies, have penetrated deeper than the author. H. D. V.

CORRECTION.—The article on Injuries to the Head, which appeared on page 65 of the January number of the JOURNAL, was erroneously credited to the Annals of the New York Surgical Society. It should have read ANNALS OF ANATOMY AND SURGERY. We have had frequent occasion to make extracts from the pages of this valuable periodical; and take occasion to say, that under the management of its distinguished editor, Dr. James E. Pilcher, it constitutes a storehouse of science which should be in the hands of every practitioner of surgery.

ACTION OF DUBOISIA ON THE CIRCULATION. — Dr. Gibson has a memoir on this subject in the *Journal of Anatomy and Physiology*. The properties of duboisia have been investigated by Mr. Tweedy, Dr. Ringer and Dr. Fraser, and they have shown that it dilates the pupil, dries the mouth, quickens the pulse, arrests perspiration, produces headache, causes drowsiness, and finally induces tetanus. The conclusions at which Dr. Gibson has arrived are: 1. That duboisia in quantities not exceeding 0.005 gram, raises the arterial blood-pressure without materially affecting the pulse-rate. 2. In quantities not exceeding 0.05 gram it diminishes the blood-pressure and lessens the pulse-rate. 3. In quantities of 0.05 gram and upward it causes death, with the heart in a state of diastole. 4. Upon the heart itself duboisia has but little action, except in very large doses—*i. e.*, doses of more than 0.05 gram—and it then causes arrest of the heart in diastole. 5. Duboisia stimulates the central inhibitory mechanism. 6. The alkaloid paralyzes the peripheral inhibitory apparatus. 7. Duboisia stimulates the central vaso-motor apparatus and causes contraction of the arterioles in small doses; in large doses it lowers the activity of the central vaso-motor mechanism, and dilates the arterioles. 8. Duboisia has no influence over the sympathetic nerve.—*Louisville Medical News.*

Editorial.

PHYSICIANS AND PHARMACISTS.— The short article in this number of THE JOURNAL AND EXAMINER, in which the practice of some physicians in signing certificates testifying to the qualities of medicinal agents and compounds, and of pharmacists in putting *trade marks* on their productions, is commended, has been admitted on the principle that both sides should be heard, and not because we agree with its sentiments. On the contrary, we think that both practices are in bad taste, and essentially vicious in their tendencies. N. S. D.

CHANGES AND APPOINTMENTS.—Dr. Louis Elsberg, of New York, has resigned the position he formerly held in the Medical Department of the New York University, and has received the appointment of Professor of Laryngology and Diseases of the Throat in the Dartmouth Medical College.

INDIAN HABITS AND DISEASES.—The following letter, though not written for that purpose, is worthy of record.—[ED.]

UNITED STATES INDIAN SERVICE,
PAPAGO AGENCY, DECEMBER 25, 1881.

MY DEAR PROFESSOR:—As I promised you a letter concerning my new location here in Arizona, I will take to-day, Christmas, as opportunity offers, to write you something of a detailed account of the modes and customs, together with the diseases of my Indian subjects. The Indians among whom I am located are by name the Papagoes, and are members of the large nation known as Pimas, who inhabit this Territory, and also extend far into Mexico. The Papagoes, long years ago, sundered their connec-

tion with the great nation on religious accounts; the Papagoes being religiously inclined, and the rest of the nation not. They cut their hair short, and have ever since worn it so. They constitute a large portion of the Indians in this section of the country, and extend several hundred miles into the Mexican territory.

They are preëminently peaceable, and also intelligent; but in war they are great warriors, and are to this day the terror of the Apaches, although they have never been known to be hostile to the white man. They live in rude huts; some of sun-dried brick, others of stone. They are poor farmers, and consequently are insufficiently nourished. The men and women appear well developed, and are manly, fine-looking people. They are not superstitious, and have no traditions that I have been able to learn. Their language is of a most curious character, and no white man, I believe, has ever mastered it. It is almost exclusively guttural.

They are but little inclined to strong drink, which is rather peculiar, I believe. The virtue of their women is actually unimpeachable, and death to both parties is the penalty of adultery or fornication. They are considered the purest Indians in this Western country, while the Pimas, their own countrymen, are given to immorality and drunkenness. There is no syphilis among them, and I have never seen any gonorrhœa yet. Their children are healthy, fat, and fine specimens of youth. There is no scrofula amongst them, although the Mexican children all about here are full of it. I think this is a great credit to them.

The diseases of the Indians do not differ greatly from those of the whites. We have here, at certain seasons of the year, the essential fevers; malarial diseases of a varied character; some seasons of contagious diseases; little asthma and catarrh; considerable conjunctivitis, cataract, and other diseases of the eye; some ear troubles. Consumption is rare, and also the other diseases of the East and North. I have not had a chance of observing a single case of cancerous disease since I have been here, nor have I heard them speak of any diseases which might have been it. I believe you mentioned in your lectures that the percentage decreased as we went south. I shall make observations from time to time, and see what the relative amount of cancer is about here.

There are a great many Mexicans about the Reserve, and I think they are the most dissolute, ruthless and good-for-nothing set of people I ever saw. They won't work; don't know how to farm, and are the poorest teamsters, I think, in the world. None could be worse. None of them about here have anything laid up, and are only living on this land by the sufferance of Government.

I have observed a strange disease here, which is quite prevalent among Indian children, and which I forgot to mention. This is a disease known as dirt-eating, and which is mentioned by Dr. Flint in his work on Practice. The children first show a distaste for the mother's milk, refuse it, become crabbed and cross, cry a great deal, and soon they are observed eating dirt. They will continue this practice as long as they are not checked. It is evidently a disease of the digestive system, and probably is due to ill nutrition. The females are very productive, and bear children in quick succession.

There is near here the famous old church of San Xavier, which is supposed to have been built by the Franciscans in 1650. It is a marvel of art for those days, but is now crumbling away quite rapidly. Our dwellings, all through this country, are made of what is known as adobé, or sun-dried brick. They are peculiar-looking edifices. With best regards for yourself, etc., I remain,

Yours sincerely,

DR. W. G. COOK.

THE HOSPITAL FOR WOMEN, SOHO SQUARE, W. LONDON, DEC. 15, 1881.—A marble bust of Dr. Protheroe Smith, the founder of the Hospital for Women, Soho Square, the first of its specialty, was recently presented to the institution by friends and patients, and was unveiled this day by Sir Rutherford Alcock, K.C.B., the chairman of the committee, on being placed in position in the hall of the hospital. The work has been well executed by Mr. Belt.

Selections.

MENSTRUATION AND ITS DERANGEMENTS. By ALFRED MEADOWS, M.D., F.R.C.P., etc., Physician to, and Lecturer on Midwifery and diseases of Women and Children at, St. Mary's Hospital.

Menorrhagia.—This term must be carefully distinguished from metrorrhagia, a task rendered easy by reason of the essential differences between the conditions which give rise to one and the other form of discharge. The former appears only at the regular periods at which the menstrual flow is wont to recur, whereas the latter is constantly present in patients who suffer from it. The causes tending to the production of menorrhagia are to be found in such excessive changes in the ovary as bring about a state of hyper-stimulation of the organ, and these changes may be initiated either through the nervous, or through the vascular system, or as a consequence of constitutional state. In the first case, excessive activity of the ovary results in an increase of function in the parts connected by nervous communication with it, and in these circumstances the blood supply will undergo variation commensurate with the changes set up. In such conditions of the general system as are observed in anæmia, on the other hand, fluid is easily transfused from the circulatory organs, and goes to increase the natural discharge in menorrhagic patients. In such cases constitutional treatment, by iron and other appropriate remedies, must be encouraged; but there will be also encountered varieties of this class of case, each demanding special treatment, the nature of which must be decided on the merits of each as it presents. In this connection it may be urged that no drugs are, strictly speaking, definable as emmenagogues. Some

substances which, under certain circumstances, act thus, may, at another time, and under varied conditions, ensure quite opposite effects, and therefore it should be regarded as an improper license of language to retain the term emmenagogues as fixed and invariable for any particular remedy.

Menorrhagia may be of different types. The *congestive* variety is encountered in florid women, and where it exists the uterus will be found thickened, deeply injected, and from it will flow a bluish sanguineous discharge following the introduction of a sound. This condition will, moreover, be attended by dragging pains in the back, aggravated at the periods of menstrual flow, and which may be set down as due to a passive uterine hyperæmia. The indications for treatment of such cases point to relieving the local congestion, for which purpose leeching is probably most suitable; and it may be repeated when required. General treatment is also called for, and particularly should the liver be attended to, since it is generally found to be at fault; likewise the digestive organs. The drugs to be looked to for benefit are such as ergot, nux, etc.

In ovarian menorrhagia the symptoms encountered present well-marked features to indicate the source whence they originate. There are no signs to indicate that the uterus is directly concerned in their production; pain is felt in the groins and down the thighs, and may also be experienced in the mammæ, all these special signs of ovarian implication being absent in the form of menorrhagia previously described. In it, however, the symptoms are aggravated at the menstrual period, and find an explanation in the physiological principles already enumerated. In these cases examination of the uterus reveals no abnormality connected with that viscus, but, on the contrary, pain and tenderness are always discoverable about the region of the ovaries, and at the same time possibly enlargement of the ovary itself. Also in these cases of true menorrhagia, the menstrual act occurs more frequently than it would under normal conditions of health, and this also serves to separate these cases from those of the uterine class, in which no such increased frequency is met with. The reasons for this peculiarity again are to be found in the structural arrangements and physiological influences at work in

the parts affected, and a due understanding of them will determine the nature of the treatment best to be adopted. The guide to this is in the pathology of the state, and would lead to the neglect of astringent remedies, which, from their mode of action, are improper and unscientific, since attention is to be devoted immediately to the ovaries, the seat of the morbid process that is to be attacked. The most powerful agent that can be employed in this connection is undoubtedly bromide of potassium. It exerts a direct and considerable action on the ovary, including atrophic changes in it, and thereby effects speedy diminution in the amount of discharge set up by over-excitement in its tissues. The bromide exerts specific influence over the nerves supplying the ovary, and hence the importance attaching to its use in all those instances where these nerves are in a condition of undue stimulation.' Other treatment must of course be determined on the merits of each case; thus iron may be beneficially prescribed, and especially the application of anodynes locally in the form of pessaries. One of the most useful formulæ of this description is, Dr. Meadows explained, the following: codeia, 1 gr.; and atrophine, $\frac{1}{12}$ gr., in a pessary.

Menorrhagia consequent on organic changes in the uterus, may be considered as being amenable to treatment, except in those cases where such changes are due to presence of a malignant growth. The commonest form of such organic changes is so-called "sub-involution" of the uterus. This, the opposite condition to "involution," is readily understood when the sequelæ to delivery are considered. Following parturition the uterus is left in a condition of enormous hypertrophy, which, however, undergoes natural reduction, and in from three to four weeks in ordinary circumstances the organ resumes very nearly its natural condition. The process whereby this is effected is one of fatty degeneration, the uterine muscles, increase in which is that which produces the great enlargement of the organ, being thereby gradually diminished by resorption of the hypertrophied mass. The contraction of the muscular fibers themselves is a material operation, moreover, in bringing about the result; and anything which may interfere with due performance of such action will necessarily arrest the process of normal involution of the uterus, and set up

a state of sub-involution, thus favoring the menorrhagic condition; and it is a matter of observation that this consequence of its existence may be present with greater frequency after abortion than when delivery takes place at the full term. In such cases, too, metrorrhagia will not rarely be discovered. The occurrences which mark this state of affairs clearly show how the discharge may be maintained during their existence; they include descent of the uterus, a consequence of its increased weight acting on the weakened supporting structures, and the increased tissue substance at the same time constitutes a much-thickened wall, while the cavity of the organ may be even double its usual length. The presence of these conditions, taken together with the history of the case, enables a positive diagnosis to be immediately arrived at. Treatment is then comparatively simple. The indications are to relieve the atony, which is the most important depraved condition, and thus restore the structures to a state in which the arrested process may once more be pursued to the natural termination.

In those instances, however, where the history given is that of a chronically inflamed hypertrophied uterus, the treatment resorted to will be different, inasmuch as the operating causes are shown to be other than in the variety just considered. In order to meet and arrest menorrhagia due to sub-involution, attempts are directed to inducing tonicity and contraction in the uterus, for which purpose such remedies as ergot, cinnamon, nux, quinia, etc., will be found serviceable. Locally, the application of galvanism, if persisted in with a determination to overcome the menorrhagia, will sooner or later be attended with relief of the symptoms, and is well worthy of most careful trial.

Intra-uterine growths may be either malignant or non-malignant in character, and the symptoms of their presence may include both menorrhagia and metrorrhagia. The nature of the discharges, however, may undergo very considerable alteration in accordance with changes taking place in the uterus itself. It should be carefully remembered, also, that over-frequent ovolution will give rise to excessive secretion, the discharge of which may be mistaken for evidence of a menorrhagic flow. The phenomenon of periodicity, in all such cases, will serve to arouse suspicion

as to their real nature, and the further influences exerted over the discharge by, and through, the ovaries, will afford confirmatory proof concerning them.

When the fact that the uterus does contain a growth of some kind has been accurately established, then, if it be malignant in character, further decision respecting its special nature will be materially assisted by the signs its presence affords. Thus, the situation and character of the pain experienced by the patient will be a valuable means of diagnosis in cancer of the cervix, scirrhus. Absence of painful sensations is by no means of uncommon occurrence, whereas in that description of cancer which is found invading the fundus uteri agonizing pain is an all but invariable accompaniment, and it is never unattended by severe attacks of pain. The knowledge already gained of the nerve distribution of the uterus will render the explanation of this difference a simple matter, as also it will indicate why operation on the neck of the womb may be resorted to without the fear of unduly disturbing the patient.

There is also a distinct connection between the pain experienced and the amount of discharge from the organ. Thus the greater the degree of pain the smaller is the flow; and the more considerable the discharge the less excruciating is the pain, or the greater, in other words, the freedom from pain. This correlation is of immense value as a means of diagnosis in case of cancer uteri, and will often become a guide in the question of operative procedure. Whenever a copious discharge is met with in patients who suffer but little, and in whom the presence of a cancerous growth has been made out, then the conclusion is justified that the cervix is the part implicated, and never the fundus of the uterus. Again, as to the appearance of the discharge. This will be of a dirty fœtid nature, only in cases of malignant tumors, unless it be that it arises from a sloughing sore, or from pent-up secretions. In malignant cases it is always present.

The presence and nature of the growths under consideration need to be made out with care and certainty ere their treatment can be hopefully resorted to; and for this purpose several modes of investigating them must be pursued. Several aids to physical examination can be employed, and the chief may be noticed in

succession. The fingers of the operator are the most important of all these aids; by them the size, consistence, etc., of the cervix are at once determined; they unerringly ascertain the presence of growths on the walls they are in contact with, and as well, too, they will enable a determination to be arrived at concerning the preservation of the tumor, whether that is to be properly associated with one or other of the groups of cancerous growths, or is of non-malignant origin, as, *e. g.*, polypi, etc.

At this point Dr. Meadows proceeded to describe at some considerable length the numerous tumors to be found in the uterus under abnormal conditions, and the way in which they would be found productive of menorrhagia. From this subject he then passed to a consideration of the second most important aid to physical examination, the *uterine sound*, which he likened to an elongated finger, by the employment of which valuable information might be gained concerning the length and extent of the uterine cavity, the situation and nature of growths in its walls, etc., etc. He next enumerated the various kinds of tents, sponge, tangle, etc., also of service as aids to examination, which acted by dilating the canal of the cervix, and so admitting freer inspection of the interior of the womb.

In respect of *interstitial tumors* of the uterus, Dr. Meadows strongly inclined to the view that *enucleation* is the most appropriate treatment to adopt toward them; and he expressed his conviction that in the future it would be universally employed. In the majority of cases the tumor is, he explained, so free of the proper tissue of the organ as to admit of being safely everted, and he had been surprised sometimes to find how thin the wall could be which permitted this to be done with absolute safety.—*Medical Press and Circular.*

HEATON'S OPERATION FOR THE RADICAL CURE OF HERNIA.*

By GEORGE W. GAY, M.D., Surgeon to the Boston City Hospital.

The Heaton method of treating inguinal hernia for a radical

* Read before the surgical section of the Suffolk District Medical Society, November 19, 1881.

cure consists in moistening the fibrous tissues of the inguinal canal and rings with a preparation of white oak bark, and applying pressure by means of a compress and bandage to keep the canal closed, and prevent the descent of the hernia till the contracted tissues become strong enough to support the strain imposed upon them. The originator of the treatment claimed that by this method of "tendinous irritation," a permanent contraction of the fibrous structures was produced, which resulted in a lasting cure of the affection.

The fluid recommended for injection is composed of fourteen grains of the solid extract of white oak bark, thoroughly rubbed up with half an ounce of the fluid extract of the same drug by the aid of gentle heat. The mixture is thick and muddy, and requires thorough shaking before using.

The operation is performed as follows: The hernia having been reduced, and the sac also, if possible, an instrument resembling the hypodermic syringe, charged with the astringent, is thrust directly down through the skin into the external abdominal ring, and the point of the needle carried up the inguinal canal in front of the spermatic cord to the internal ring. The fluid is deposited slowly while withdrawing the instrument, the point of which is to be moved about in all directions, in order that the astringent may be distributed as evenly as possible throughout the canal. A compress and bandage are applied at once, and worn for a few weeks, when, in the successful cases, the rupture is cured, and requires no further support.

Twenty-four hours after the operation there is usually present some effusion and tenderness in the inguinal region at the seat of injection. The former may remain for an indefinite period; the latter commonly subsides in a few days, except in those unfortunate cases which terminate in suppuration. In some instances no thickening or effusion can be detected after the operation, while in other cases complete absorption of the exudation takes place after a time, and the parts return to their former condition. At the end of a fortnight, in the favorable cases, when the patient is allowed to leave the bed, the external ring will be found much reduced in size, and it is with difficulty that the finger can

be introduced into the canal, where, previous to the operation, it passed easily.

Should any of the fluid be allowed to escape into the areolar structure outside the canal, it is apt to produce a mass of induration in the loose tissues, which may persist for some time, but which, from its location, size, mobility and gradual absorption, can seldom serve in any degree to prevent the hernia from coming down. Furthermore, cellulitis and abscess may result from this cause. Suppuration occurred in two of our patients. The abscesses were deep-seated, apparently extending through the anterior wall of the inguinal canal. The resulting infiltration entirely disappeared in a few weeks after the abscesses closed, and in one case the hernia returned. These complications increase the suffering, prolong convalescence, and, in our opinion, add nothing to the success of the operation.

Dr. Davenport, who edited Dr. Heaton's book, and who was a careful and conscientious observer, always strongly insisted to the writer upon the importance of setting up only a very moderate local action by the injection; anything like severe inflammation was to be avoided if possible. He believed that white oak bark had a mild yet persistent astringent effect upon fibrous tissues, which was more lasting and less violent than that resulting from ordinary inflammation. Hence, it is the fibrous, and not the cellular structures which require the application of the astringent.

Where is the fluid deposited, in this operation?

This is an inquiry that has often been made, but to which, in the absence of any examination upon the cadaver, it is difficult to give a satisfactory answer. Theoretically, it should bathe the fibrous structures in contact with the neck of the sac. Practically, the surgeon, depending largely upon his anatomical knowledge of the parts, carries the needle up to the vicinity of the internal ring, and slowly empties the syringe during its withdrawal. Whether the sac is penetrated or not is probably largely a matter of luck, rather than of skill, for in cases of old hernia it would seem hardly practicable to guide a needle between the sac and walls of the canal without penetrating one or the other. In some cases the needle moves about in the canal with great free-

dom, giving one the impression that it has entered the cavity of the peritoneum; yet in twenty-seven operations I have never seen anything like peritonitis. With few exceptions, there has been only a moderate local disturbance, which did not require treatment, and which subsided in a few days. Although the pain of the operation is not severe, yet in children an anæsthetic is required to prevent the struggling and straining from forcing out the contents of the rupture before the bandage is applied; timid and nervous people also need it to enable them to keep still. Opiates are not usually called for during the after-treatment.

Below will be found a brief report of *all* the cases operated upon by me, both in hospital and private practice, with the exception of two, which have been under treatment but a few weeks. The results are stated as fully as possible, and no patient is reported *cured* who has not remained well for at least a year after discarding all support to the rupture.

Case I.—A waiter, aged twenty-four years, entered the hospital suffering from an inguinal hernia of moderate size on the left side; a truss had been worn. September 9, 1877, the patient was etherized, rupture reduced, and ten drops of the Heaton mixture injected into the inguinal canal. A compress and bandage were applied, and the patient remained in bed two weeks. He was discharged, wearing a bandage, at the end of five weeks. The external ring had been reduced to one-half its former size by the operation, and the rupture had not returned.

Case II.—A sailor, thirty-four years of age, with a reducible inguinal rupture of seven months' duration, was operated on at the same time, and in the same manner as the previous case. He was discharged in four weeks, wearing a truss; the ring was contracted somewhat, but not sufficiently to control the hernia.

Case III.—A harness-maker, aged forty-five, subject to asthma and bronchitis, had a right inguinal hernia of some years' duration; the ring was large, and rupture uncontrolled by a truss. Operation June 10, 1878. Although the size of the ring was somewhat reduced, the intestine came down during an attack of severe coughing, and he was discharged not relieved.

Case IV.—A policeman had an omental rupture of two years' duration, which extended half-way to the bottom of the scrotum,

and could not be controlled by a truss. The operation by injection was performed twice in as many months, with the result of reducing the ring to the size of a pipe stem, but a strand of the omentum still came down, though it could easily be kept up by a truss. Being very anxious to obtain a radical cure, he afterward submitted to an operation for the removal of the protruding omentum, but with only a partial success. He is now wearing a truss.

Case V.—A boy, a year and a half old, with a double inguinal hernia, was operated upon in 1878, in the out-patient department of the hospital. The after-treatment was neglected, as the mother failed to bring him back to have the bandage readjusted. The operation did no good, and the child now wears a truss.

Case VI.—James, twenty-one months old, right inguinal hernia; injected with three drops of the oak bark; wore bandage only a week; remained well at the end of fourteen months.

Case VII.—Michael, two and a half years of age, had a right inguinal hernia which had lasted six months; the ring was large, and two operations were performed. Three years later the rupture came down, only after great straining; he had worn no support.* It seems fair to consider him much relieved by the injection.

Case VIII.—A house painter, aged twenty-four, subject to convulsions, was injected for an inguinal rupture. The fits returned three days after the operation, when he jumped out of bed, pulled off his bandage, and the rupture returned. No benefit was received from the operation.

Case IX.—Daniel, aged twelve, a thin, spare boy, had a scrotal hernia with large rings, and loose pillars. Was injected twice within two months. He remains well at the present time, and has not worn a support for nearly two years.

Case X.—A boy, four years of age, was operated upon for an omental hernia running into the scrotum, with little if any relief.

Case XI.—John, six years old; inguinal rupture, which had come down only a few times; it was reduced under ether about a week before the operation by injection. The ring was small, and hence peculiarly adapted to this operation. The little fellow

* I have lately repeated the operation upon this child.

was running about in a week, and has had no return of his rupture. It is now nearly two years since the operation. This patient would very probably have recovered by wearing a well-fitting truss.

Case XII.—For a year Miss ——, aged thirty-eight years, had suffered a good deal from an omental hernia, which came down into the right labium in spite of any truss she could apply. The operation was performed as in the male, and she remained in bed about a month. The resulting inflammation in this, as in all the cases narrated thus far, was very moderate, never threatening suppuration. She wore an abdominal supporter for several weeks. Fourteen months after the operation she remained well.

Case XIII.—A man, fifty-eight years of age, entered the hospital, suffering from the early symptoms of strangulation of an inguinal hernia. It was reduced under ether, and the operation for a radical cure performed some weeks later. When he left the hospital, at the end of three weeks, the hernia had not returned, and the little finger could not be passed into the external ring. As the rupture was intestinal, the operation promises to be successful.

Case XIV.—A baby, ten months old, was brought to me with double inguinal hernia, which trusses did not keep in place. Both were operated upon for the first time over a year ago; as the child has since had measles and whooping-cough, without bringing down the left rupture, we may safely call that one cured. Suppuration followed the injection upon the right side, and the operation has been repeated twice without success. The rings are large, the inguinal canal is short, and thus far no truss has been found to control the hernia. The operation is to be repeated after the child has fully recovered from whooping-cough.

Case XV.—Mr. F., aged twenty-three, suffered a good deal from inguinal herniæ, which could not be controlled by trusses. The rings were large, pillars thin, and abdomen flat. Both ruptures were operated upon without ether a year ago. Large effusion followed the injection, resulting in an abscess on each side, which was a long time in closing. Neither hernia has returned;

the patient wears a double truss, and has been greatly relieved by the operation.

RECAPITULATION.

Number of patients, fifteen; cured, four; relieved, eight; not relieved, three. Number of ruptures, eighteen; cured, five; relieved, eight; not relieved, five. Number of operations, twenty-three.

With two exceptions, the above cases seemed to be favorable ones for the operation. That it was not more successful may very likely be due, in part, to the lack of skill and experience in the operator; in part to the imperfect after-treatment, especially in several instances, occurring in the out-patient department of the hospital; and finally to the fact that a second operation could not be obtained in several cases, in which not quite sufficient contraction resulted from the first.

While I do not feel justified, from my limited experience, extending over only four years, in expressing a decided opinion as to the real value of the oak bark treatment of hernia, yet my impression is, that in the inguinal variety of the affection it is often a good method, and is worthy of further trial and study at the hands of competent surgeons. It would seem peculiarly adapted to cases with small rings, and to cases occurring in children, when Nature herself is making a constant effort to correct the deformity, and requires but little assistance to enable her to accomplish the result.

I know nothing of the merits of the operation in other kinds of hernia; but in the one under consideration I can but conclude that it is safe; it is not very painful; it is not very difficult to perform; it does little harm, even if it does no good; it will cure a certain number, and will relieve others.—*Boston Med. and Surg. Journal.*

NERVE STRETCHING IN TETANUS—SUCCESSFUL. By W. I. WHEELER, M.D., T.C.D. F.R.C.S.I., Surgeon and Lecturer on Clinical and Operative Surgery to the City of Dublin Hospital; Member of Council Royal College of Surgeons.

The operation of nerve stretching has, of late years, been often

practiced, and has been a subject of much interest to, and investigation for, most practical surgeons, although the case I am about to record, viz., nerve stretching in acute traumatic tetanus, scarcely as yet comes within the present literature of the operation, only one case, as far as I know, being fully and well recorded of nerve extension in tetanus. I feel that a limited epitome of one or two of the earlier accounts will render this communication more interesting. Truly, many cases recorded in times past bear on the operation of stretching nerves, although a different explanation is given, to what now, they would seem to require; this is well exampled by a case of secondary amputation performed by Mr. Langstaff, for a neuralgic stump, in which he states he drew out the nerves before dividing them, and that the neuralgia was cured. He performed this operation in order that the nerves might be free from cicatricial tissue, but it is reasonable to assume that the favorable result was due to the *nerve stretching*.

Amongst the earliest operations of this kind we find the following remarkable case, published by Professor Nausbaum (*Deutsche Zeit. f. Chirurgie*) which I will briefly record:

A soldier, æt. 23, received a blow with the butt end of a rifle, on the nape of the neck, and another on the left elbow. At the former place an abscess formed and was opened and duly healed up again. He afterward suffered from contraction of the left pectoral region, the whole left upper and fore-arm, and hand of the same side. This contraction was a spasm, which became more violent the more attempts were made to oppose it; besides, there extended over all the dorsal aspect of the fore-arm an anæsthesia, which increased to such a degree that deep incisions, tenotomies, etc., could be practiced without any pain to the patient. The spasms varied in intensity, and were so violent that for hours the finger tips were driven into the palm of the hand; the great pectoral muscle was always as hard as stone. Numerous were the remedies applied—iodine, mercury, belladonna, and the constant and interrupted galvanic currents, etc., etc., without affording the slightest relief. Professor Nausbaum operated after this manner:

The patient being under chloroform, an incision about three inches long was made over the site of the ulnar nerve, which

was lifted, gently extended, and then replaced. The wound was cleansed, and closed by suture. A second incision was made in the axilla over the artery. The nerves, which closely surround the vessel, cutaneous as well as muscular, were drawn out one by one, the median, radial and ulnar being recognized to a certainty by the twitching of the muscles of the finger, which they respectively supplied, and after being subjected to the same treatment as the ulnar nerve, were replaced and the wound brought together; lastly, an incision was made over the left clavicle, such as would suit the ligation of the sub-clavian, the platysma having been divided, the four lower curved nerves were isolated, traction was exercised upon each, and each was followed with the tip of the right forefinger to its point of exit from the vertebral column, here each was pushed upward and downward, and right and left. A good tug at the nerve in a direction, although it were to be pulled away from the spinal cord, completed the operation. The four upper curved nerves were not touched, as there had been no indication that there was any lesion of the phrenic nerve at its origin. The operation was successful beyond expectation, the spasms did not return, the forearm and fingers could be flexed and extended at will, and the skin of the arm, which before the operation was so devoid of sensation that puncture and the application of hot sealing wax were painless, had regained sensation to such an extent that the patient, even when blindfolded, could localize the slightest touch. The man made a good recovery, although he had of necessity to run the gauntlet of pyæmia, nearly always present, then rife in Nausbaum's hospital.

Close after Nausbaum, we have cases recorded by Billroth and the late Mr. Callender. The observations of the latter gentleman, well worth perusal, may be found in the Clinical Societies "transactions;" were it within the province of this communication, I could myself relate cases with satisfactory results from stretching the supra-orbital, facial, spinal accessory, and external poplitial nerve, and quote published statements, that substantial and advantageous results have followed the stretching of the ischiatic nerve in Duchenne's paralysis. That relief may be obtained in such cases is quite tenable, but the pathology of the disease negatives the assertion that more than that can be gained;

the notes of the following case under my care were chiefly taken by the house surgeon:

Teresa M., æt. 8, a strong, healthy child, was admitted to the City of Dublin Hospital on the 10th of October, 1881, suffering from what she stated to be a sore finger. Eight days previous to admission a stone fell on the middle finger of her right hand, bruising it severely; the finger had been dressed and placed on a splint by the medical man who saw the case, but, owing to the neglect of the parents, the dressing had not been changed for six days previous to admission. On examination the end of the finger was found to have been destroyed by gangrene, and fell off with the foul dressings, leaving the end of a fractured phalanx (the second) protruding; this fell away at the joint next day. The patient did not complain of any pain in the hand, but did of pain in the back, which was stated to be caused by a fall off a table. When the question of making a neater stump was under consideration, it was noticed that the patient lay in a peculiarly stiff way in bed; operative procedure was postponed, commencing tetanus was diagnosed, and was followed by the train of usual symptoms. The muscles of the back and abdomen became rigid, the sterno-cleido-mastoid and trapesic muscles were also in a state of rigidity, the risus sardonicus was well marked, and strong tetanic spasms backward (opisthotonos) contorted the child's body; the spasms came about every two hours. The treatment was locally, opiate stupes applied over the wounded finger, enveloping the hand as far as the wrist, and ice to the spine and head. Internally, bromide of potassium, belladonna, and cannabis indica were administered; chloral hydrate was given by the rectum to produce sleep; the nourishment was chicken broth, milk, and beef-tea. The room was carpeted, and a screen placed round her bed. There being no improvement from the above treatment, but, on the contrary, the patient getting worse, and the spasms increasing in intensity, on Sunday morning, the 15th October, I determined to stretch the median nerve in the forearm. The child being put under the influence of chloroform (my colleagues, Dr. H. Benson and Mr. Butcher, were present), I made an incision about two and a half inches long in the forearm and quickly caught the median, closely applied to the posterior

surface of the flexor digitorum sublimis, which appeared somewhat red. I stretched the nerve between two fixed points, and also pulled it firmly downward toward the wrist joint in its long axis; while under the chloroform the tetanic spasms stopped. The wound was brought together by means of strips of American rubber plaster, and quickly healed. No deleterious carbolic spray was used, but there was minute attention paid to surgical cleanliness before bringing the edges together. For two hours after the operation the spasms increased a little in frequency, but gradually became less frequent. Never were they so intense from the time of the operation, and from this time the recti muscles of the abdomen became relaxed. The temperature was always normal or sub-normal,* and the pulse ranged from 60 to 70 per minute, save on two occasions when it was 110 and 90 per minute. The further history of the case was a gradual progress toward recovery; the last recorded twitch, for it could not be called a spasm, was on the 20th of October. The patient is now quite well and she has returned to the country. In her photograph (here produced) can be seen, on close examination, the line of incision. On testing the sensation in her right hand with the æsthesiometer, three days before leaving the hospital, it was found unimpaired, as also motion.

As before stated, the only well recorded case of nerve stretching in tetanus that I can find is that reported by Dr. Paul Vogt, who cut down on the brachial plexus, and pulled it in a case of traumatic tetanus occurring fifteen days after an accident which inflicted wounds on the palmar and dorsal aspects of the same hand. He states that there were attacks of the most powerful opisthotonos, that there was no pain in the forearm or arm, not even tenderness, and that the wounds were healthy and granulating. Slight spasms occurred in his case on only two occasions after the operation, but there was some stiffness of the jaws remaining. In discussing the treatment of *traumatic* tetanus, it can be done under two heads, viz., by operative measures, and medicinal measures. The results of treatment are so unsatisfactory as to justify any reasonable line of action that has a chance

* The highest temperature recorded in tetanus is that by Wunderlich. Even the thermometer stood at 112 Fahr., and the temperature continued to rise for an hour after the cessation of all signs of life.

of success. Under medicinal agents we could not well be at a loss, as almost every medicine in the Pharmacopœia has, some time or other, been prescribed for this affection. On the contrary, operative measures are much more limited. I may name amputation, actual cautery, division of nerve trunks, and nerve stretching; of these I selected the latter, believing it to give the best chance to my patient. That the pulling and pulling forcibly of a nerve is not followed by any untoward results is manifest not only from the cases I have quoted, but from those recorded by Billroth and others, where large nerves have been exposed and roughly handled, neither was their motor power nor their nutrition impaired; but when we come to consider how the stretching of a nerve relieves pain, how it stops tetanic spasms arising from central irritation, with our limited physiological knowledge of the spinal cord it is difficult to offer an explanation.

Now Flaubeit and Le Bret have shown that inflammation of the spinal cord may follow as a consequence of irritation of the brachial plexus, and Brown-Séquard has confirmed this, and illustrated the extension of irritation through a nerve trunk to the spinal cord; developing symptoms through the extension of the mischief in the nerve centers, to parts removed from those first involved, hence, the necessity for the recognition and discerning between a peripheral and a central irritation. Nausbaum has made a speculative statement, that in neuralgia the stretching is of service by altering the relations of the nerve fibers and improving their nutrition, but this would not account for the cessation of spasms due to tetanus. It would seem that as neither sensation or motion, even in violent nerve stretching, is impaired, that it must be a temporary numbing of the nerve, by which numbing there is a cessation of the power of the nerve fibers to transmit abnormal impressions, and thus the centers have time to resume their normal condition and control. *Apropos* of this, Dr. Brown-Séquard has proved that if a nerve is exposed and frequently washed with ether it will be unable to transmit any irritation. But, it may be asked, will not the division of the nerve break the chain of these abnormal impressions? I think experience teaches us the contrary, for if there is a neuritis present, as I believe there was in my case, the limits of the affection

are unknown, and in the cases recorded by Drs. Sands and Seguin, in which portions were cut out from the brachial plexus, the nerves of which were found matted together, the patient was only relieved, as the neuritis probably extended further on the central side. Knowing these facts, I was prepared to stretch the brachial plexus of nerves, were I not convinced as I was by the relaxing of the abdominal recti, and afterward by the lessening of the spasms, both in frequency and intensity, that the amount of stretching I practiced would be sufficient; but, in thinking over the case, it has occurred to me that had I stretched the brachial plexus, like Dr. Paul Vogt, the spasms might have ceased almost immediately. I deem this case one of much interest, and being anxious to know if there had been any cases of nerve stretching for tetanus in the sister Island that I could quote here to-night, I inquired of Mr. Bryant, who informs me he cannot give me reference to any case of nerve stretching for tetanus in London.

RABIES—A POSSIBLE CAUSE AND A PROBABLE PREVENTIVE.

By L. L. DORR, M.D., San Francisco.

It is probably owing to the great obscurity that surrounds the etiology, pathology and treatment of rabies, that it is exciting so much study. Taking these divisions of the subject up inversely, it may be remarked that experience in the treatment of this terrible disease has thus far furnished no favorable results. In this respect there has been less accomplished than in the case of any disease known to both ancient and modern times. In the few cases chronicled as cured there have invariably been good grounds to question the diagnosis; for in a perhaps purely nervous disease like this, there is plenty of room for exercising the imagination both of the patient and of the physician. It is safe to say that in no case of undoubted rabies has death failed to result speedily, and that there is no known cure.

Of the pathology, we have none that is recognized by the general profession. Whether it is primarily a disease of the blood, which sooner or later affects the nervous system, or whether the

effects are exerted directly on the nervous system, is not known. Both systems seem to be the theater of the disease in man. No contusion or rupture of the skin can occur but there is of course more or less of an impression on the nerves; but it seems to be necessary that the poisonous saliva shall reach the absorbents to produce the effects, and then it is a comparatively few who are bitten by a really rabid animal who take the disease. Injury of the peripheral nerves when there is no possibility of the wound being poisoned, may produce tetanus, a disease much resembling rabies. A comparison of these two diseases shows that the history is similar, the symptoms being markedly alike in many respects, and the results of treatment in most instances not much different, for Dr. O'Beirne, of Dublin, witnessed two hundred cases of tetanus without a single recovery. It may be that rabies is a form of tetanus, but that the special poison has a particular affinity for the nerves governing the muscles connected with the acts of deglutition and respiration. There are poisons that produce analogous, peculiar and special effects. Dr. A. Flint, Jr., says: "Woorara, a poison, has the remarkable property of paralyzing the motor nerves, but leaving the nerves of sensation intact." This drug has been used in the treatment of both tetanus and rabies for these reasons, but with no marked results. Cantharis has a special effect on the mucous membranes of most persons, and it may kill if the dose is sufficiently large. There are many drugs, of vegetable and mineral origin, that have special effects on certain organs.

The symptoms of rabies are well-known, and generally unmistakable to an unprejudiced mind; but until we more fully understand the causes, we cannot expect to prevent this malady. The same may be said of the pathology; for until we understand the pathology, especially during its incubation, we cannot expect to treat the complaint intelligently or successfully. But little has been said of the etiology in all that has been published of late on this subject, and when the pathology and treatment have reached a non-progressive stage, it is time—not to abandon them—but to direct the attention of thinking people to the cause, that steps may be taken for prevention; and there is something to be said on this point. We are not satisfied to sit down and say, "What

can not be cured must be endured;" for what can not be cured in medicine must be prevented, says modern science. In recent medicine, it is possible that the prevention of disease has done more to prolong human life than therapeutics, whether based on pathology or not. It may be that such will be the case with rabies; and that in the absence of any cure, and with certain death in prospect, the grain of prevention may be of great value. As instances where progress has been made by adopting this line of defense, it is only necessary to mention the management to-day of yellow fever, cholera, small-pox, etc. For these infectio-contagious diseases there are no cures, but we see how much can be accomplished by prevention; which, in fact, is almost total annihilation. How can these arguments be applied to rabies?

The Possible Cause.—In a study of the natural history of the dog, we find that he is an animal existing in nearly every country of the world, both in the wild and in the domesticated condition. He is indigenous to nearly all lands. The theory that the dog is a descendant from the wolf is not tenable.

Rabies has been known among dogs as far back as history speaks of them. It is also found that it has prevailed most in the most thickly-settled countries, and those having the most intimate and constant communication with other nations; and from those peoples it can be traced just in proportion as they made discoveries and conquests of other lands; for wherever civilized man has gone he has taken dogs, and in those lands rabies has then appeared, and not until then.

In the Mauritius Islands it was not known until 1821, when it appeared soon after a dog arrived there on an English ship from Bengal. It is not mentioned whether this dog was allowed intercourse with the native dogs, thereby giving opportunity for generating or spreading the disease by contagion, but it is presumed the greatest liberty existed.

In Labrador, Liberia, Australia, Van Diemen's Land and New Zealand, places in but comparatively slight communication with the rest of the world, rabies is seldom if ever heard of. In relation to Greenland, heretofore reckoned in the list, Professor Agnew says, in his recent "Surgery:" "In 1863 it prevailed to such an extent in Northern Greenland as to destroy all the

dogs in certain localities." It must be remembered that communication with Greenland is getting more and more frequent, and that the Esquimau dog is said to be fast crossing with the wolf. Erichsen says: "Rabies is not known in Central Africa in any animals."

As regards China and Japan, countries notably exclusive of both men and animals from foreign lands, and where they have mostly one breed of dogs, rabies is seldom heard of. Authorities differ, however, in this respect. Dr. H. W. Boone, surgeon in charge of St. John's College, Shanghae, China, writing under date of June 28, 1881, says: "The ordinary Chinese dog is large, sort of half-wolf, like Indian or Esquimau dogs, but they have small Pekin pugs and small Canton dogs. Chinese dogs occasionally cross with European dogs, but only at the few open ports. The pure Chinese dogs have hydrophobia, and did so in early days, before foreign contact was common. Japan the same." Dr. D. B. Simmons, for many years a resident in Yokohama, Japan, writing under date of March 10, 1881, says: "I have never seen an unmistakable case of rabies in a Japanese. I saw one case in a foreign child who was bitten by a foreign dog, a Newfoundland. The dogs here are large, wolf-like beasts, having their origin, no doubt, in China."

Without doubt, dogs have been taken to all of these places, and perhaps allowed to live there for years, but they were probably dogs of a pure and original breed, and were not permitted to accompany or cohabit with the native dogs. And here hangs the point of my argument as regards the cause of rabies—that is, that a dog of a pure and original breed is incapable of generating rabies, and that it never appears in any land until such dogs breed in-and-in with dogs of other countries, producing the mixed or mongrel dog. All dogs receive and give the contagion, but only the mongrel can *generate* it. Such seems to be the proper deduction to make from the history of rabies, and such is the conclusion that observers of dogs and of this disease are fast approaching. Charles Hamilton Smith says that "the Newfoundland dog is an original breed, and true hydrophobia does not attack them in their native land." The same author, in speaking of Arctic dogs, says: "Arctic dogs in their native regions are

not liable to canine madness." He also says: "Of all domestic dogs, the greyhound is the least liable to hydrophobia." It is also true that the greyhound is the least apt to breed with other dogs; they are peaceable, keep mainly by themselves, and are no doubt of a pure and original breed. Erichsen says: "Among dogs, rabies is the most common in those of mongrel breed, seldom affecting those of pure blood." John W. Hill, R.C.V.S., in speaking of the causes, says: "I am very much inclined to think breeding in-and-in encourages its development." Dr. Verity, in the Manchester *Courier* of 1876, says: "I have always had a strong opinion that breeding in-and-in tends to produce hydrophobia in the dog." There are many instances in human beings where crossing the race tends to produce men inferior in intellectual force and physical bearing, with a strong tendency to disease. If we want a perfect specimen of the intellectual and physical make of any race, we find it among those of pure and unadulterated blood. The crossing of nations of the same race produces, undoubtedly, a superior class of men, but the crossing of different races only produces inferiors, natural criminals and idiots. There are a few exceptions, but they only make the rule more apparent and forcible. The Caucasian and Indian crossing we all know the result of—weak, criminal, and sickly offspring. There are no King Philips or Sitting Bulls who are half-breeds. The results of the crossing of the negro and white man are numerous among us, and generally they are objects of pity, and die early. The few with us of the cross of Chinese and Caucasian are the despised of both nations. The Mexicans are largely a cross between the Spaniard and the native Indian, and are a weak, degenerating, dying people, far lower in intelligence and physique than the Spaniard of Spain or the historical Aztec. To return to the brute creation, it is only necessary to say that the breed is not improved by crossing the common horse with the Arabian or Shetland. Cattle are not improved by crossing with the buffalo. These instances all seem to admonish us to keep the breeds, whether of human beings or animals, pure and of the original race. It may be that rabies is the result of the violation of this seeming law of nature; and if so, the prevention would be easy —that is, to allow none but dogs of a pure and original breed to

live. How easy this would be to try in a land like England, where laws are made to be enforced, and it would not be hard to determine which were of a pure breed. It is possible, to my belief, that if dogs of different breed were prevented from crossing, or their progeny disposed of, rabies might be prevented. In the absence of a cure, the trial of this measure may be deemed advisable.

The question naturally arises, Which are the dogs of a pure breed? We have to regret that nothing is *positively* known on this point, history being incomplete. Recent authorities, such as Charles H. Smith, Thomas Bell, and Youatt, speak in no decided words on this point, using the indefinite terms probably, evidently, etc.; but the following-named are with little doubt directly descended from the wild dog: the shepherd dog, the mastiff, the greyhound, the hound, the spaniel, the Newfoundland, the Esquimau, the terrier and the cur. The shepherd has been considered the primitive dog. He is no doubt the original dog of Western Asia and Egypt. The mastiff may be indigenous to England or the higher lands of Asia and Africa. The greyhound is very ancient, having been known three thousand years ago, when it differed in no important particular from that of the present day. The British Museum contains a group of greyhound puppies in stone, from the ruins of the villa of Antonius. The greyhound was an inmate of Anglo-Saxon kennels in the time of King Elfric. The hound and spaniel are natives of Spain. The Newfoundland is indigenous to that island, and was not known in Europe until imported from there. The Esquimau dog is a native of the more northern latitudes, and is more like the wolf than any other species, yet is reckoned as the native dog. The majority of those seen at the present time may be a cross with the wolf. The terrier is considered indigenous to Great Britain. Curs are the most numerous, and are the native dogs of many countries; but, having no well-marked characteristics, they have received no definite name, and are often confounded with the mongrel dogs. There may be others, but these are the principal ones.

The Probable Prevention.—It has been very generally admitted that climate makes no difference with the appearance of the

disease. Professor G. Canettoli, in *Lo Sperimentale* for June, 1875, says, in writing of rabies: "This is a disease of all climates; the extremes have the smallest number." Mr. Hill says: "The influence of climate, season, or sex would appear to have little bearing on the subject." This conclusion is from a European standpoint.

The Pacific coast of America presents some peculiar features as regards this disease. We have in this city, and in a portion of the State, a peculiar climate, which cannot be compared with that of any other portion of the world. But we have also in this large State, and on the Pacific coast, thickly-settled towns and cities where the extremes of heat and cold are well marked, and can be brought into comparison with those of places in the Eastern States and Europe; yet, from Behring's Strait to Cape Horn, not a well authenticated case of rabies was ever known. Dr. Logan, recently United States Minister to Chili, in a little work published in Chicago, called "Physics of the Infectious Diseases," says: "Of the remarkable disease called hydrophobia, the author feels himself justified in saying that it has never been known upon the whole coast." Dr. F. C. Valentine, of Guatemala, writes, under a recent date, and after eleven years' residence in Central America: "I have not encountered one authenticated case of rabies during my residence here." Dr. G. Chismore, of San Francisco, a gentleman fond of dogs, and who lived several years in Alaska, says, under date of June 11, 1881: "I never saw or heard of a case of rabies among Alaskan dogs." Dr. F. W. Hatch, permanent Secretary of the State Board of Health of California, in a note dated February 20, 1879, says: "There are no cases of, or deaths from, hydrophobia on the records of the State Board of Health. Personally I know of no cases of the disease in the State." The records of the Health Office in San Francisco furnish no evidence that there has ever been a death from rabies in the city. Is it truthfully stated, then, that climate has no influence over this disease?

It seems to be well proven that rabies prevails more or less in nearly all portions of the world that have been long in communication with the older nations, but that it does not prevail on

the American Pacific coast in any animals, brute or human, while at the same time there is every kind of climate from the north frigid, through the temperate and tropic, to temperate and frigid again. Whatever the future may bring, the past gives no record or knowledge of the existence of rabies. Why we are so wonderfully and fortunately favored cannot, perhaps, be positively made out.

It is reasonable to suppose that among the many human beings and animals who are bitten every year by really rabid dogs in the Eastern States and in Europe, some one or more, considering the possibly long period of incubation, must have reached the Pacific coast; yet not one case has been developed, while dogs are numerous and of great variety, from the pure-blooded greyhound to the scurvy mongrel.

Dr. Verity, in an article on this subject which appeared in the Manchester *Courier* of 1876, approaches what may be considered some explanation. He says: "Certain peculiar changes in the system, possibly due to atmospherical influences, act in producing it." If this be true, may not other atmospherical influences act to restrain or annihilate the poison? We have a recognized condition of the atmosphere on the coast, called electrical; and all are aware of the wonderful effects of artificially generated electricity when used in the treatment of nervous and other diseases. A test of the power of the climate of the American Pacific coast to prevent the development of rabies can easily be made, with strong probability of proving a blessing to hundreds of human beings who have no other hope. The period of incubation is so long in many cases, that several dogs known to be badly bitten by a dog known to be suffering with rabies could be sent here under guard, and kept behind prison bars and under observation until the extreme limit was passed. Or a more practicable plan might be to have a number of the many persons who are annually bitten by rabid dogs in the Eastern States and Europe come to this coast, and remain here until the extreme limit of the possibilities was passed, selecting any place from Cape Horn to Behring's Strait—preferably, however, California, where we have a varied climate and all kinds of dogs, and are in

close communication with all parts of the world. The patient having a knowledge of these facts, and the support of hope of escape, it might be a power to prevent an attack; and, if he were attacked, the disease might be so modified by the climate as to render it susceptible of cure.

DISSEMINATED TUBERCULOSIS NOT ORIGINATING IN A PRIMARY SOURCE OF INFECTION WITHIN THE BODY. By C. CREIGHTON, M.D.

The author had examined the organ and parts from a number of tuberculous cases, from nine months to fifty years of age, and concluded that there had been no primary seat or focus of disease in the body, with respect to which the tuberculosis might be regarded as a secondary infection. On the other hand, the tubercles on the serous membranes, in the lymphatic glands, in the lungs and in the viscera, were to be taken as all coördinate with respect to the initial infection, which must have been considered to have been a virus introduced into the body from without.

The best analogy for tubercles disseminated through the body was the analogy of primary, secondary, and tertiary syphilis, in which the syphilitic formations, in however various parts they might be situated, and at whatever intervals of time they might appear, were all alike due to a virus introduced from without. The author's views were in accordance with those of Klebs (Virchow's *Archiv.*, vol. xliv, 1868). They were at variance with the opinion of Schüppel (*Lymphdrüsen-Tuberculose*, 1871), who considered that tuberculosis might originate as a primary new formation in the lymphatic glands, and in the serous and synovial membranes. They were equally at variance with the opinion of Rindfleisch, who, while he admitted a primary, secondary, and tertiary tuberculosis, explained that succession as being a subordinate one on the analogy of tumor-infection, which was contrasted with the analogy of the coördinate syphilitic infection, or of any other such infection due to a virus introduced into the body from without.

Professor Virchow (Berlin) criticised the statement of Mr. Treves, that tubercle was not neoplasm, but an inflammatory product. He (Dr. Virchow) did not understand the difference. A neoplasm was a new formation, which had arrived at a certain degree of independency. The formation of new bone on the surface of the old bone was first inflammatory, but, if it grew and formed an exostosis or osteoma, then it was neoplasm. In his opinion, neoplasm was only a conventional term, having no connection with the cause, the origin, or the history of the product. The relations between tubercle and inflammation were manifold. There were forms very common in serous membranes, where the development was at first, and during a long time, simply inflammatory; and it was only after the repetition of certain actions that the development of tubercle in the newly-formed tissues was seen. In some cases, there was a series of capillary excrescences of only fibrous tissues, and in other cases such processes became enlarged at the end, and the formation of tubercle commenced. In other cases, tubercle was developed without any sign of inflammation; that was to say, if the signification of inflammation in the old traditional sense were maintained. Mr. Treves had said that giant-cells were lymph-coagula. When he (Professor Virchow) was a student, all such cells were called "mother-cells." At a later period, he introduced this name of "giant-cells," in order to make a distinction between somewhat large multi-nuclear, with two, three, or four nuclei, and the cells having the characteristic and specific form found in a certain number of cases. It was important to distinguish between multi-nuclear cells and the peculiar giant-cell. In cancer, there would frequently be found large cells with six, eight, or ten nuclei; but the specific contents of the cell were not of the finely granular substance which gave the peculiar appearance to the giant-cell, and it was possible at first sight to distinguish the two forms. This penular form of cell—not the old "mother-cell"—was first distinguished by M. Robin in the marrow of bones, and called by him *myéloplaxè*. The English surgeons applied this term to the history of tumors and neoplasms, and recognized it as characterizing a form of myeloid growth. This was a very penular form of tumor, but it also existed where there was no marrow. Some cases of epulis

were composed nearly altogether of those cells, the majority of which proceeded from the surfaces of the maxillary bones. He investigated these penular myeloid cells, and had found them in the placenta and in the peritoneum. M. Robin called them *myéloplaxès*, because he believed that they were not cells. They had a membrane, but, to see it, it was necessary to examine very fresh preparations, such as those just removed in surgical operations. This could be done by applying concentrated fluids, first strong, and afterwards diluted; by which means it became possible to remove the cell-membrane from the surface. He did not know that any coagula could be treated by fluids of different concentration in such a manner that a perfect membrane could be removed. The cells were developed by a regular gradation from simple cells, showing that it must be organic formation, and not coagulum. More developed forms were also characterized by a difference in the granular contents, and which sometimes had a brownish hue. The common multi-nuclear cell had not this peculiar development. He held that giant-cellswere a very peculiar form of regular cell-formation; not common to one single process. He had observed giant-cells in ordinary lymphatic glands long before he and others saw them in scrofulous or tuberculous glands. With regard to Dr. Creighton's communication, he believed that in many cases no caseous or other process existed before the tubercles were formed. He had always maintained that primary eruptions of tubercles might exist without any previous tubercular or caseous mass. He had also seen secondary tubercular deposit at the periphery of cancerous tumors; and hence he had become very cautious in concluding, from the observation of tubercles in the periphery of a tumor, that the origin was also tubercular. He originally believed that the majority of caseous masses found in the suprarenal capsules were tubercular, but possibly that many of those originated in scrofulous inflammation; and that only at a later period tubercle appeared. The secondary eruption might be produced by any noxious substance, or, he would say with Dr. Creighton, by any virus; but this need not come from without. It might be produced in the body itself by any morbid process. He thought that by a multitude of processes a substance could be produced that could infect the

neighboring tissue, also the whole body, and produce tubercular eruption. Professor Virchow then referred to the occurrence of bovine tubercle in man, contended for by Dr. Creighton, and handed a copy of the report of the experiments conducted at the Veterinary School in Berlin. It was a matter by no means settled at present. He had never seen the flesh or milk of animals suffering from *perlsucht* cause tubercle in animals fed with it; infection had taken place only by inoculating the tubercular matter itself. He considered that the calcification of the *perlsucht* nodules was a distinguishing characteristic.

M. Béchamp (Lille) directed the attention to the part taken by micro-organisms in the formation of pulmonary tubercle. He thought that the molecular granulations break down, destroy the cells, and take up carbonate and phosphate of lime. They appear under the form of small spheres, or often in that of a figure eight. When placed in a suitable medium, they fructify and give rise to a mycelium and bacteria, this development being accompanied by the disengagement of hydrogen and carbolic acid and the formation of butyric acid.—*The Cincinnati Lancet and Clinic.*

THE OPIUM, CHLORAL and HASHISCH HABITS.—Under the title of "Drugs That Enslave," Dr. H. H. Kane, of New York, has produced a small volume (Presley Blakiston, Philadelphia), presenting a very graphic picture of the manner in which the habits of taking opium or morphia, hydrate of chloral, and Indian hemp, are acquired, and containing an accurate description of the injurious effects of these habits upon the system, and the treatment to be employed in breaking them up.

In ministering completely to his natural wants and cravings, man may be said to have several objects in view. His first care is to provide the materials capable of rebuilding the tissues that are constantly being destroyed in the exercise of the different functions of the body; of these materials, bread, meat and water may be taken as examples. Next, he endeavors to lessen mental uneasiness and anxiety, employing for this purpose various fermented liquors, all of which depend upon the same ingredient—

alcohol—for their intoxicating properties. Finally he strives to multiply and exalt his intellectual and animal pleasures by the use of narcotics, such as tobacco, opium or hemp. It is impossible to find a tribe of people, however savage, that has not discovered in some way, that, for the want of a better word, can be termed instinctive, the art of preparing alcoholic drinks, and that does not use them to produce intoxication, with its attendant pleasures and consequent miseries. Equally universal and instinctive is the use of narcotics. With the exception of tobacco, which is consumed by nearly the whole world, the narcotics resorted to vary greatly in their nature, and, unlike the fermented liquors, owe their soothing effects to very different active principles. The rule is for each nation to use a narcotic of native growth; for instance, in Turkey and China opium is used, in India hashisch, in the Eastern Archipelago betel-nut and betel-pepper, in Peru and Bolivia coca, and so on. While the pleasureable sensations obtained from alcohol and the narcotics explain in part their very extended use, another explanation is to be found in the well-known fact that, when taken in moderation, the consumer is enabled to accomplish his work upon a less amount of food than would otherwise be required; this property is due to their power of diminishing the tissue changes incident to all labor, and the consequent necessity and demand for reparative food.

The effects of food, alcohol and the narcotics depend solely upon the way in which they are employed, whether temporately or intemporately. So natural is it to satisfy the appetite for food, that we are apt to ignore the fact that over-indulgence is as certainly followed by disease as in the abuse of wine or opium. On the other hand, we forget that, of the multitudes who use alcohol and narcotics, very many are not only uninjured, but even benefitted, by their temporate use. In illustration, it is only necessary to refer to the testimony relating to the effects of opium upon the Chinese. On this point, an observer states: "Although the habit of smoking opium is universal among rich and poor, yet they are a powerful, muscular and athletic people, and the lower orders more intelligent and far superior in mental acquirements to those of corresponding rank in our own country

(England);" another: "that the effects of the abuse of the drug do not come frequently under observation." There can be no question, however, about the great tendency to the abuse of both alcohol and narcotics. The sensations produced are so delightful that, having been once experienced, many individuals are unable to resist the temptation to reproduce them. Each indulgence, beside lessening the power of resistance, is followed by a period of depression directly demanding a repetition of the dose, which must also be constantly increased in amount to bring about the desired result. Consequently, what is at first a matter of choice soon becomes a necessity, and the habit of abuse, with its dire consequences, is established.

To limit attention to the narcotics, it is probable that the increase in the habitual over-use of the more powerful substances of this class in our own country does not depend on a simple craving for pleasureable sensations, but, as Dr. Kane suggests, on a desire to be relieved from some long-standing and perhaps constant disagreeable sensation. The increased mental strain attending the struggle for wealth and position, the diminished physical activity, the hurry and turmoil of our lives, together with the influences of climate, have gradually given us bodies in which the nervous element largely predominates.

The distressing manifestations of increased nervousness, particularly pain, are most promptly overcome by narcotics. One of these drugs, usually opium, may be ordered by a physician, the intention being to resort to some more radical treatment as soon as the urgent symptoms have disappeared; the sufferer, though, having once found relief, insists upon a further use of the drug—may even at times feign illness to procure it—and in the end obtains some for himself, and in secret drifts into its habitual misuse. In proof of this statement, it will be found that the particular narcotic and the manner of consumption among *habituès* corresponds exactly with the medical practice of the period in which they live. When opium in substance was prescribed by physicians, people ate opium; when the alkaloid morphia became fashionable, the habit of eating morphia arose, and since the discovery of the hypodermic syringe by Dr. Alexander Wood, of Edinburgh, and its introduction to this country in

1856, by Prof. Fordyce Barker, the habit of injecting morphia subcutaneously has been developed. The chloral habit has demanded attention for the past few years only, the date of the discovery of the drug being comparatively recent; and the hashisch habit is very infrequently met with in this country, simply on account of hemp being so little used as a medicine here.

Where the responsibility for the formation of these habits rests, is a difficult question to decide. A great share of the blame must, of course, be attached to the individual who allows himself to give way to a morbid appetite; but the physician who, knowing the weakness of human nature, places a narcotic at the disposal of a patient, to be used as he deems fit, does a foolish, if not criminal act; still more the druggist who, as far too frequently happens, sells opium or chloral at the simple request of a customer, and without the authority of a physician's prescription.

The opium habit claims a much larger number of victims, is more easily formed, and much more injurious to health than the chloral habit. In proportion to the quantity consumed, the functions of the mind and body are rapidly or slowly undermined, until the *habituè* becomes a mere wreck of his former self; business is neglected; social ties are sundered, and the sole object in his life is the gratification of a passion that he loathes, yet can not overcome. The habit may be broken either by a sudden or a gradual withdrawal of the drug. On account of the suffering occasioned by the first method, and the risk of the production of dangerous symptoms that may continue for many days, the author of the work before us recommends the system of gradual withdrawal, from four to ten days being the period allowed to elapse between the first reduction of the dose and the total suspension. The patients are more successfully treated when removed from their homes and separated from friends who may be induced to secretly supply the drug; baths, electricity and certain medicines are useful as adjuncts, and a very important step in the permanent cure is the removal of the disease that primarily led to the use of opium.

The continued use of hydrate of chloral is not so apt to generate a morbid craving for it as a similar use of either opium or

morphia, and the habit, once formed, is usually readily abandoned, although in some instances, like the dipsomaniac's desire for alcohol, the chloral craving, after remaining latent for a long time, unexpectedly returns; under these circumstances, there is considerable difficulty in breaking the habit permanently. Sometimes, particularly when the quantity consumed each day is small, chloral produces no noticeable alteration in the general health. In other cases, the activity of the brain and the whole nervous system is diminished, the functions of digestion, respiration and circulation are interfered with, various eruptions appear upon the skin, and a condition resembling ordinary blood-poisoning may be produced. Unless there is great debility, it is perfectly safe to break this habit by an abrupt withdrawal of the drug; the patient is then soon restored to health by the employment of baths, electricity, and a stimulant and tonic plan of treatment.

Only one instance of the hashisch habit has come under the observation of Dr. Kane, and it is probable that the abuse of this drug is very rare in America.

Dr. Kane's book is adapted more for the professional than the lay reader; still, it contains many points of general interest, and cannot fail to aid in checking an evil that is but too evidently on the increase.—*The American.*

NEW YORK AND PHILADELPHIA CLINICAL LECTURES (adapted from the *Denver Tribune* "Primer").—Whom do I see? You see a lecturer describing a case to his class. Do you see the case or the class? Of course you do not; they are both in the lecturer's mind.—*Record.*

Items.

OBITUARY.—Died, at his residence near Philadelphia, on the 31st of October, 1881, William Furness Jenks, M.D., aged thirty-nine years.

The death of Dr. Jenks finished a life which a few years ago was full of promise. Educated at Harvard, he received his medical degree from the University of Pennsylvania in 1866, and after a term of service as resident physician in the Philadelphia Hospital, he studied obstetrics and gynæcology in the special schools of Berlin, Vienna, London and Edinburgh. In 1870 he began the practice of his profession in Philadelphia, and lost no time in finding in dispensary service the opportunity of acquiring a practical knowledge of the sciences which he had so carefully studied, and for three years gave a course of practical obstetrics, illustrated by operations on the cadaver. For only a few years, however, was he able to continue his work. In the autumn of 1874, failing health compelled him to pass the winter in Florida. On his return, he made an effort to resume work, but was soon forced to give up, and again seek in a foreign climate the health refused him in his own. From this time his professional labors were over, for he saw that the only hope of prolonging his life was in the entire abandonment of all work. For a few years his search for health was partially successful, and he lived in comparative comfort until last October, when, after a short confinement in bed, he quietly passed away.

Breaking down almost at the beginning of his professional life, Dr. Jenks left but little behind him by which he could be judged, and the full measure of our loss properly estimated. His exhaustive review of Schroeder (*American Journal Med. Sci-*

ences, Oct., 1872), and the paper on "Sarcomatous Growths of the Uterus," (*Amer. Supplement to the Obs. Journ. of G. B. and I., Oct. and Nov.* 1873), bear, however, sufficient evidence of the extent of his knowledge, and of the close analytical character of his mind. A pupil of Sir James Y. Simpson, he regarded the obstetric forceps as extractors, rather than compressors, and after persistent efforts, succeeded in introducing the Simpson Forceps into Philadelphia obstetric practice. A skillful pathologist, he, at the time of his first illness, was preparing a course of lectures on uterine and ovarian pathology for the College of Physicians. Had he been able to complete this course, it would have been a very valuable contribution to this branch of medical science. It, however, was not to be, and when he died, almost nothing remained to his friends, save the recollection of the brilliancy of his genius, his patient industry, and the sparkling geniality of his manner.—*The Medical News and Abstract, December*, 1881.

THE SIXTEEN COMMANDMENTS OF THE PARIS ACADEMY OF MEDICINE.—Translated by Dr. D. C. Holiday, for the *New Orleans Med. and Surg. Journal.*

The Academy of Medicine has condensed into the following sixteen propositions the most important hygienic rules for the care and management of infants. We reproduce them here, with the sincere hope that all mothers and nurses will commit them to memory and observe them as faithfully as the ten commandments of holy writ:

I. During the *first year* the only suitable nourishment for an infant is its own mother's milk, or that of a healthy wet-nurse. Suckling should be repeated every *two* hours—*less* frequently at night.

II. When it is impossible to give breast-milk, either from the mother or a suitable nurse, cow's or goat's milk given tepid, reduced at first one-half by the addition of water slightly sweetened, and after a few weeks one-fourth only, is the next best substitute.

III. In giving milk to an infant always use glass or earthenware vessels, not metallic ones, and always observe the most scrupulous cleanliness in their management, rinsing whenever used. Always avoid the use of teats of cloth or sponge, so frequently used to appease hunger or quiet crying.

IV. Avoid carefully all those nostrums and compounds so liberally advertised as superior to natural food.

V. Never forget that artificial nourishment, whether by *nursing-bottle* or *spoon* (without the breast), increases to an alarming degree the chances of producing sickness and death.

VI. It is always dangerous to give an infant, especially during the first two months of its life, solid food of any kind—such as bread, cakes, meats, vegetables or fruit.

VII. Only after the *seventh* month, and when the mother's milk is not sufficient to nourish the child, should *broths* be allowed. After the first year is ended, then it is appropriate to give light broths or paps, made with milk and bread, dried flour, rice, and the farinaceous articles, to prepare for weaning. A child ought not to be weaned until it has cut its first twelve or thirteen *teeth*, and then only when in perfect health.

VIII. An infant should be washed and dressed every morning before being nursed or fed. In bathing a child temper the water to the weather, carefully cleanse the body, and especially the genital organs, which require great cleanliness and care; and the head should be carefully freed from all scabs and crusts which may form. Where the belly-band is used it should be kept on for at least one month.

IX. An infant's clothing should always be so arranged as to leave the limbs freedom of motion, and not to compress any portion of the body.

X. An infant's clothing should be studiously adapted to the weather, avoiding at all times exposure to the injurious effects of sudden changes in the temperature without proper covering; but nurseries and sleeping apartments should invariably be well ventilated.

XI. An infant should not be taken into the open air before the fifteenth day after birth, and then only in mild, fair weather.

XII. It is objectionable to have an infant sleep in the same bed either with its mother or nurse.

XIII. No mother should be in too great a hurry to have a child walk; let it crawl and accustom itself to rising on its feet by climbing on articles of furniture, or assisted by the arms of a careful attendant. Great care should be taken in the too early use of baby-wagons, etc.

XIV. No trifling ailments in infants, such as colics, frequent vomiting, diarrhœa, coughs, etc., if persistent, should be neglected—a physician's advice should be at once obtained.

XV. In cases of suspected pregnancy, either of mother or nurse, the child should be weaned at once.

XVI. A child ought to be vaccinated after the fifth month, or earlier should small-pox be prevalent.

QUACK ADVERTISEMENTS.—The most despicable of all literary frauds and liars are those employés of nostrum mongers who assume the character of physicians and write down the profession for the purpose of writing up quackery. Of course this is done anonymously, for no respectable physician could make such a fool of himself. It is a part of the quack-medicine machinery. The inventor of a preparation to be put on the market as a new and valuable discovery, employs some smart scribbler who is otherwise a miserable hack, to puff it. For this purpose no fiction is too gross and mendacious. Assuming the character of a respectable physician of great experience, the hired penman throws himself soul and body into the service of his master and stops at no falsehood which his skill in that line may suggest. Nor has he any difficulty to get a hearing before the public. He knows that newspapers in general have their price, and that "religious" periodicals are not above the captivating influence of money. We have just observed in a weekly religious journal published in the East, a long article of the kind referred to, in which the writer represents himself as a "reporter" giving the experience of an old and well-known doctor, who was cured of some disease (not of lying) by a certain quack "kidney cure," when his professional

brethren had failed to relieve him. Of course the "Doctor" was manufactured in the brain of the reporter, and yet the story will gain credence with a large per cent. of readers, particularly as it appears in a religious paper, and not in the usual form of an advertisement.

There is greatly needed a sense of personal responsibility on the part of journalists in regard to the advertisements which they publish. At present this is entirely wanting. There is no one to stand between the conductors of a journal and the public. Not only are editors and managers irresponsible in this respect, but their direct endorsement of the most palpable falsehoods is often purchasable with money. The agent of the unprincipled nostrum-monger or abortionist goes to the newspaper manager with a proposition substantially as follows: "I want you to publish for me this budget of lies—forged certificates of cure, disguised abortion notices, and so forth. I want it inserted, not as an advertisement, but under another head, so that people will think the editors have written or indorsed it. I want to buy, not only the use of your columns, but, for the time being, that of the names, character and souls of all the editors and others concerned with your paper. What is your charge?" The representative of the press answers: "Our people don't much like to father such a job as that. One of them is a preacher, you know, and they are nearly all strictly religious. We shall have to charge you just double price for putting that stuff in as you want it. Our men can't sell their consciences for nothing." And so the bargain is ended.

We do not pretend to say that this is the literal method of transacting the business, nor that every journalist is guilty of it. But the picture is not much overdrawn, and the practice is injurious and disgraceful and ought to be abandoned.—*Pacific Medical and Surgical Journal.*

E. PASTEUR'S EXPERIMENTS ON CHARBON.—M. Pasteur has now an opportunity of practically testing the truth of his theory as to the protection of animals from charbon by their inocula-

tion with the artificially cultivated virus of that disease. On the 5th ultimo, the farm of a veterinary surgeon at Pouilly-le-Fort, and sixty sheep were placed at M. Pasteur's disposal. Ten of these sheep were left untouched, in order that they might later on serve for comparison. Of the remaining fifty, twenty-five were marked with a hole in their ears, and were inoculated, the first time on the 5th of May, and the second on the 17th. On May 31, none of the inoculated sheep had lost fat, or spirits, or appetite. On May 31, the fifty sheep were taken, without distinction, and inoculated with the strongest virus. M. Pasteur predicted that, on the 2d instant, the twenty-five sheep not inoculated would be dead, and that the inoculated animals would show no symptoms of sickness; and accordingly, on that day, a number of spectators, including the President of the Agricultural Society of Melun, the Prefect of the Department, and the Director of Agricultural Matters at the Ministry of Agriculture and Commerce, assembled to witness the result. The prophecy of M. Pasteur was exactly fulfilled. At two o'clock twenty-three of the sheep which had not been inoculated were dead. At three o'clock the twenty-fourth died, and the twenty-fifth an hour later. The twenty-five inoculated animals were quite sound, and in perfect health. Only one of them was feverish; and the fever, which was caused by the animal having designedly been inoculated with too strong a dose of the virus, speedily disappeared. The twenty-five carcases have been buried in a fixed spot; and, on the infected grass which will grow over it, experiments are to be made with inoculated and non-inoculated sheep. M. Pasteur's discoveries in this direction are being amply corroborated by English experience, and, if the matter be properly taken up, the agricultural interest will have one less difficulty to contend against, since it ought to be practicable to protect herds against charbon much in the same way that human beings can protect themselves against small-pox by vaccination.

INTESTINAL RESECTION.—Professor Czerny communicates (*Berl. Klin. Woch.*, No. 45, 1880), three cases of intestinal resection which he has performed. In two cases, the gangreneous

coil of intestine in a strangulated hernia was resected; and, in the third case, a malignant tumor of the colon was removed. In one of the first two cases, the patient recovered perfectly without fever or reaction of any sort; in the second, the already pulseless patient died during operation in a fit of fæcal vomiting. The third case was the most remarkable. A female, 47 years old, with a tumor in the abdomen, diagnosed as intestinal cancer, had vomiting and diarrhœa. On operation, there was found a large tumor of the tranverse colon, firmly attached to a coil of the sigmoid flexure. Part of the sigmoid flexure was first resected, the ends being brought together with thirty-three sutures; then a large piece of the colon was removed, and the ends united by twenty-six sutures. . Lastly, a wedge-shaped piece of the meso-colon was removed, also necessitating ligatures. A drainage tube was inserted, and the wound in the abdominal wall closed by means of four deep and eight superficial sutures. The patient recovered, and was living half a year after the operation, although, from the infiltration of the mesenteric glands, a recurrence is inevitable. Dr. Czerny proceeds as follows: The intestine being compressed above and below, the diseased part is removed along with the corresponding wedge of the mesentery. The ends are now disinfected, and a double row of carbolized silk sutures applied. Those in the first row include about a twelfth of an inch of the serous and muscular layers of each end of the intestine, and are about a twelfth of an inch apart. A second row of sutures, about a fifth of an inch apart, are applied over and partly including the first. The intestine is then returned into the abdomen, and antiseptic dressing applied.

QUEBRACHO.—Dr. Stewart (*Canada Medical Journal*), says: First introduced by Penzoldt, it has been found to be a decided palliative in many cases of dyspnœa. It is especially valuable in the dyspnœa of emphysema and chronic bronchitis. In dyspnea depending upon valvular insufficiency its value is questionable. Penzoldt has lately experimented with an alkaloid which is obtained from this bark. It is called *aspidospermin*, and occurs

in small, white, prismatic crystals. Ten milligrams of a one-per-cent. solution of this alkaloid caused complete motor paralysis in frogs, with marked reduction of both pulse and respiration. Penzoldt administered it to eight patients suffering from dyspnœa due to various causes. In all there was considerable relief; in two this was very marked. According to Penzoldt, it has an undoubted influence over dyspnœa, especially that attending emphysema, but is inferior to the quebracho itself. Dr. Picot, of Carlsruhe, used a tincture of the quebracho bark while doing some mountain climbing, with the result that he could climb with much greater ease and comfort. He has also used it in patients suffering from dyspnœa, and found it act well. In the same number of the *Berl. Klin. Woch.* Berthold recommends it highly. Flint has used it with success also.—*Louisville Medical News.*

CONSTIPATION IN INFANTS.—The following are some of the remedies found useful by Dr. D. H. Cullimore (*London Lancet*): 1. A pellet of butter and brown sugar or treacle every morning fasting, or a little raspberry jam. 2. The morning insertion into the rectum of a conical piece of white curd soap about two inches and a half long. It must be first dipped in warm water, held *in situ* for five minutes, and withdrawn. 3. Daily friction over the body, from the right iliac region along the course of the gut, with a little salad oil. In India I have used cocoanut oil advantageously. Cod-liver oil is very useful when its smell is not objected to. *En passant*, I may say that I have at present under my care a girl of fifteen who for a couple of months has suffered from obstinate constipation. She has lately had typhoid. Both mild and strong purgatives were ineffectual, and it has now yielded to cod-liver oil friction. Assiduous friction, without any unguent, is often equally useful. Patience, however, is necessary. A teaspoonful of fluid magnesia in the food is a good plan. Tomato jelly is sometimes used in India with benefit. Whatever plan may be adopted, it is well to supplement it with the internal administration of half a drop of tincture of nux vomica three times a day; a quarter of a drop is sometimes sufficient. Minute doses of sulphur also answer well.—*Louisville Medical News.*

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Feb. 6 and 20.
Chicago Pathological Society—Monday, Feb. 20.
Biological Society—Wednesday, Feb. 4.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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Original Lectures.

ARTICLE I.

DIPHTHERIA: ITS HISTORY, CAUSES, SYMPTOMS, PROGNOSIS, TREATMENT AND SEQUELÆ. A Lecture in the regular course on Practical Medicine, in the Chicago Medical College (the reporter's manuscript carefully revised by the author), by N. S. DAVIS, Prof. Principles and Practice of Medicine, February, 1882.

GENTLEMEN: The word diphtheria, as used to designate a particular form of disease, is of recent origin, having been first applied to that purpose by Bretonneau in a valuable paper laid before the French Academy of Medicine, in 1821. While the name is thus modern, the disease has been recognized and described, with varying degrees of accuracy, from a very early period in medical history. The Grecian writers alleged that the disease originated in Egypt, and called it "*Malum Egypticum*," in the days of Homer and Hippocrates. An epidemic of the disease in Rome was recognized and described by Macrobius in the year 380, A. D. From that time to the middle of the six-

teenth century, I find but few allusions to the disease. At the latter date, 1557, it appeared in Holland as an epidemic; in Germany, in 1650; in France and Italy, in 1749; and in England, from 1760 to 1769. While the descriptions of all these earlier epidemics are sufficiently accurate to render it certain that the writers were, for the most part, describing the disease now called diphtheria, it is equally evident that they often confounded it with scarlet fever and various forms of sore throat. Perhaps the most accurate of the early records is, "An Account of the Putrid Sore Throat," as it prevailed in London, by Dr. John Fothergill, published in 1769. The earliest account we have of this disease in America was written by Dr. Douglass, of the Massachusetts Colony, in 1736. It undoubtedly prevailed in New York in 1771, and was pretty clearly described by Dr. Samuel Bard. From that time to 1831 we find nothing in the medical literature of our country which could be regarded as applying to true diphtheria, although it was more or less prevalent on the continent of Europe, and was being carefully investigated by Bretonneau, at Tours, from 1818 to 1821.

Dr. John Bell, of Philadelphia, alludes to the prevalence of an epidemic sore throat in that city in 1831, which was evidently true diphtheria. In 1856 the disease prevailed with great severity in San Francisco and the adjacent counties in California, and during the next two or three years epidemics appeared in various parts of New England, New York, and a large number of the Middle and Western States. According to Dr. L. N. Beardsley, of Milford, Connecticut, the disease commenced in the adjoining town of Orange, among the scholars attending a select school, and with such severity that "fourteen cases out of fifteen, of those who were first attacked, proved fatal." In April, 1858, it made its appearance in Albany, N. Y., and caused 167 deaths during the next eight months. The disease began to attract attention in this city in 1858, and prevailed with considerable severity for three or four successive years.

During the same period of time, it showed itself more or less prevalent in almost every inhabited district of country from the Atlantic to the Pacific Ocean, and from the Lakes to the Gulf of Mexico. It prevailed in localities the most diverse in all

their local conditions. Elevated, dry, thinly populated rural districts were visited as freely, and often as fatally, as the lowest alluvial valleys, or the most densely populated cities. It presented every gradation of severity, from fifteen deaths in sixteen attacks, as reported by Dr. Beardsley, of Connecticut, to only four deaths in one hundred and thirty-three attacks, as reported by Dr. Wm. L. Wells, of Milwaukee, Wis. For additional facts regarding the prevalence of this disease during the years intervening between 1858 and 1860, and earlier, I refer you to an interesting report on the topography and epidemics of New York, by Dr. Joseph M. Smith, in the Transactions of the American Medical Association, Vol. xiii, p. 251, 1860. From that period to the present it is not probable that the disease has been entirely absent from all parts of the country for a single year. We find it occupying a place of more or less prominence in nearly all the annual tables of mortality in our cities, and accounts of its prevalence in some of the country districts have come to us every year. It seldom prevails in the same rural district more than two or three years in succession, without a period of exemption. And in the larger cities it presents its distinct waves of increase and decrease. For instance, in Philadelphia the number of deaths from diphtheria each year for eight successive years was, in 1872, 141; 1873, 106; 1874, 181; 1875, 656; 1876, 708; 1877, 458; 1878, 464; 1879, 321. In this city (Chicago) and in New York, the statistics of mortality indicate the same wave of increase in 1875, culminating in 1876, and receding through 1877–78–79.

Causes.—The predisposing causes or circumstances that appear to favor diphtheria are, childhood and youth; dampness, with frequent changes in the thermometric conditions of the atmosphere; overcrowding of houses and consequent lack of ventilation; the presence of the products of the decomposition of organic matter, whether animal or vegetable; and the want of attention to personal cleanliness and domestic hygiene.

While it is true that, during the epidemic prevalence of diphtheria, persons have been attacked at all periods of life, from infancy to ripe old age, very much the larger number of cases occur in childhood. Of the 133 cases reported by Dr. Wells,

107 were in children and 26 in adults. Of the latter, one was 63 years of age; while the great majority of the former were between the ages of two and ten years. Dr. Willard, of Albany, in giving an account of an epidemic in that city, reports 179 deaths, of which only *three* were adults, all the remainder being children, most of whom were under twelve years of age. From the statistics of the severe epidemic prevalence of this disease in England from 1857 to 1860, it would appear that more than 85 per cent. of all the deaths were of children under the age of fifteen years. It is probable that seventy-five per cent. of all the cases of diphtheria occur in childhood under twelve years of age. And as one attack of the disease does not destroy the susceptibility of the system to subsequent ones, there must be something in the conditions of childhood that acts the part of a predisposing influence.

While isolated cases of diphtheria occur in particular houses or circumscribed localities at all seasons of the year, and epidemics have occurred in all varieties of climate, yet it remains true that the disease, especially in epidemic forms, prevails much the most frequently and severely within the temperate zone, and during the spring and autumn months, when atmospheric conditions are most variable. That overcrowding of the population, as in the tenement houses in our cities, with neglect of ventilation, and the accumulation of vegetable and animal matter from want of sewerage and cleanliness, act as strongly predisposing influences, is abundantly shown by the behavior of the disease in all our large cities during its special periods of prevalence from 1856 to 1860, from 1864 to 1867, and from 1875 to the present time. For instance, in New York City, during the three months ending September 30, 1881, the whole number of deaths from diphtheria was 545; of which 405 took place in tenement houses, leaving 140 to occur in all other dwellings. During the last five months of the year 1877, there were reported to the health officer of this city (Chicago), 162 deaths from diphtheria, occurring in 122 dwellings. The health officer caused each of these houses to be very thoroughly examined by an expert plumber and sewer builder, whose report showed 13 of these houses to be in excellent sanitary condition in every respect; 14

faulty from insufficient ventilation only; 19 from insufficient ventilation and uncleanliness; 24 from insufficient ventilation and uncleanliness, both of persons and premises; and 52 from defective sewerage and plumbing.

Facts of similar import may be gathered in connection with the prevalence of the disease in all large cities; and they justify the conclusion that in such aggregations of population, those persons and families who live in poorly ventilated, uncleanly, and imperfectly sewered houses and premises, yield a larger proportion of victims of diphtheria, than those in good sanitary surroundings. But, as I have already pointed out to you in previous lectures, this conclusion is equally, or even more, applicable to the prevalence of typhoid, typhus, and all other acute general febrile affections of kindred type. And, consequently, the only legitimate deduction from the facts is, that the diminished power of vital resistance from impaired tone of health caused by living in bad sanitary conditions, causes a more ready yielding to the influence of the essential cause or causes of diphtheria.

On the other hand, in villages and country districts, the disease has prevailed in its epidemic form with as much severity and fatality, in proportion to the population, as in the most densely populated cities, and in such districts it has shown little or no preference for the poor or uncleanly, but has invaded dwellings kept in the most perfect sanitary condition, and rural districts usually deemed most healthy. For instance, Dr. William C. Wey, of Elmira, N. Y., after carefully noting the rise, progress and decline of an unusual prevalence of diphtheria in that place during the years 1877–78–79–80, says: "In the epidemic which has so severely visited Elmira, the questions of filth and water-supply from unclean sources, as means of inducing and spreading the disease, have been carefully considered. In some cases the water supply has been found corrupted; in many the general surroundings have been unsanitary, and the facilities and comforts of the sick and attendants limited and unsatisfactory. As a matter of course, great mortality has followed in the train of neglect and poverty. In other cases the water supply has come from pure sources, the sanitary conditions of the people and their manner of living has been faultless, the

utmost watchfulness has been exercised to maintain rigid non-intercourse with seats of the disease, and yet, in spite of care, and as if in defiance of it, the affection has appeared with as much malignity as in places of human crowding and disregard of sanitary precautions."

These are the statements of one of the most experienced and intelligent practitioners in that State. To precisely the same import are the facts given by Dr. N. B. Bailey, of Brewster, Putnam County, N. Y., in an account of an epidemic of diphtheria that prevailed in that place during the years 1877–78, published in the same volume of Transactions from which I have just quoted. My own personal observations lead to the same conclusions. I have met with the disease here, in this city, in all grades of severity, among both rich and poor, in the stateliest mansions of luxury, and in the most narrow, dark, damp and uncleanly hovels of poverty and vice. It has visited, from time to time, almost every county in this and neighboring States, and has proved as malignant and fatal, in proportion to the population, on the open plains, and thinly populated, healthy, rural districts in Northern Illinois, Wisconsin and Minnesota, as in the most unsanitary wards in the city of Chicago. At most, therefore, bad sanitary conditions can only be regarded as predisposing influences, and we must look in other directions for the efficient cause or causes on which the disease depends.

Many of the most eminent observers and writers of the present time represent the essential cause of the disease to be a specific contagium vivum, or organic germ, which has been shown to exist abundantly in the diphtheritic exudation or membrane, and in the epithelial layer of the membrane lining the fauces and other parts affected by the local manifestations of disease. By some, this organic germ is claimed to be the "Oidium Albicans," a fungus, consisting of sporules or micrococci and mycelium. In 1868, Buhl, Hueter, and Oertel discovered in the diphtheritic membranous formations, and in the mucous membrane covered by them, various species of bacteria, the most important of which were an exceedingly minute spherical variety, called by Cohn micrococcus, and the bacteria termo, or rod-shaped bacteria. By Oertel, and many others, these minute organisms are regarded as

the essential cause of the diphtheritic disease, and they claim to have produced well characterized diphtheria in animals by inoculation with portions of the membrane from the fauces.

On the other hand, the results of the experiments of Burdon-Sanderson with filtered liquids; the failure of Trousseau and Peter to induce the disease in themselves by the very free application of the membranous substance to their own fauces; and the entire failure of Curtis and Satterthwaite, and W. C. Wood and Formad, to induce the disease in animals by repeated and carefully executed inoculations with diphtheritic matter, go far to disprove the conclusions of Oertel and his followers. And if we add to these the further fact that every variety of germs found either in the membranous exudations of diphtheria, or in the blood and tissues of diphtheritic patients, have also been found in the miguet or curdy exudations upon the mucous membrane of the mouth and fauces in young children, in the white exudations upon the tonsils in the last stages of consumption and other wasting diseases, and in the exudations that sometimes appear on different parts of the mucous membrane in typhoid, typhus, and other low forms of fever, we shall find it much more in accordance with sound principles of reasoning to conclude that these minute organic forms, called bacteria, micrococci, etc., are simply accompaniments, if not products, of certain degenerative organic processes that take place, to a greater or less extent, in all the acute febrile and inflammatory affections of an asthenic type. If we adhere impartially to well ascertained facts, we must admit that diphtheria often makes its appearance in families, asylums and schools, as well as at the beginning of epidemics, under such circumstances that it is impossible to trace it to any form of communication with previous cases, either in the same localities or elsewhere. In other words, it is capable of spontaneous development, and consequently does not depend for its production and spread upon any specific contagious germs or virus generated in the bodies of the sick. I have seen many cases illustrative of this fact; and the same is strikingly exemplified by the outbreak of the disease in Brewster, N. Y., as described by Dr. Bayley, in 1878.

The same adherence to simple facts, however, compels us to

admit that in very many cases the disease appears to spread by an infection capable of contaminating clothes and furniture, and of being carried by them from family to family, and from one locality to another. Oertel recognizes both these series of facts, and claims that when it develops spontaneously, it is from some organic *miasm;* and hence he includes diphtheria in his class of "miasmatic contagious diseases." The fact that this disease usually prevails as an epidemic, commencing often without any traceable communication with previous cases or known contagious influence, and attacking, simultaneously, members of families in different parts of a city, village or rural district, who have neither had any communication with each other nor with any known common source of infection, would indicate that its essential cause consists in some special condition of the atmosphere, which the older writers called an epidemic constitution. Its nature will remain unknown until more systematic and continuous observations are made and recorded, concerning all appreciable conditions of the atmosphere in direct connection with records of the prevalence of acute general diseases. When this is done through a series of years, with the accuracy now attainable by the aid of physics, chemistry and microscopy, we shall have such elements for comparison as will throw light upon this and many other obscure questions connected with the etiology of diseases.

Symptoms.—For the clinical study of diphtheria I shall group the various cases met with under three heads—namely: the simple, the croupous, and malignant. In the first group I shall include all the cases that present so moderate a degree of severity as to pass through their successive stages with a natural tendency to convalescence. In the second group I shall include all those cases in which the local inflammation invades the larynx and trachea. In the third group will be included all such cases as, by the gravity of the general morbid conditions, or the severity of the naso-pharyngeal and glandular inflammations, tend strongly toward a fatal result. The majority of cases of simple diphtheria are developed gradually; the patient feeling for one, two or three days a gradually increasing sense of weariness; indisposition to mental or physical activity; vague or ill-defined pains in the head, back and limbs; with indifference to food. Then the face

becomes a little flushed, the lips dry, the expression of countenance dull, the pulse moderately accelerated, with an increase of one or two degrees of temperature, and a more decided sense of weakness; and, in addition to these symptoms of a moderate general fever, there is observable a little undue fullness behind and beneath the angle of the jaw, with some feeling of stiffness and soreness in swallowing. On examining the fauces at this stage, you will find the mucous membrane covering the tonsils, arch of the palate, and portions of the pharynx, presenting a tumefied and dark red appearance, with some spots of white, or yellowish white, membranous exudation closely adhering to it, together with some degree of swelling of the tonsils and neighboring lymphatic glands.

In a smaller number of the cases belonging to this group, the attack is more abrupt, and accompanied by chilliness, or even a decided chill, followed by a more active general fever, but the same local symptoms just described. The symptoms thus begun usually gradually increase during the succeeding three or four days. The patches of membrane on the inflamed surface of the fauces increase in number and size, until, in many cases, they coalesce and cover nearly the whole surface, and extend with the inflammation into the pos erior nares. During the same time the tonsils and lymphatic glands also increase in size, impeding the free opening of the mouth, and rendering deglutition more difficult. The fauces also become troubled with an excess of tenacious mucus, which in young children often causes much rattling in the throat and some cough. The urinary secretion is moderately diminished, and in a small proportion of cases contains some albumen, and the bowels usually remain quiet, unless disturbed by laxative medicine.

This class of cases usually reach the climax of activity, in both general and local symptoms, in from three to five days after the first development of local symptoms. The swelling of the glands of the neck and parts within the fauces ceases to increase; the membranous exudation soon appears more yellow and shows signs of loosening or disintegration; the saliva or mucus in the mouth and fauces becomes more opaque, more easily dislodged, the breath more offensive, and generally some discharge from the

nostrils. While these local changes are taking place, the general febrile symptoms also diminish; and in the mildest variety of cases, by the end of the first week, the temperature has returned to the natural standard, the pulse becomes soft and weak, but natural in frequency; the cutaneous and urinary secretions natural, and the membranous exudation and swelling, both in the fauces and lymphatic glands, disappear, leaving the patient fairly convalescent, yet much debilitated. In the more severe cases belonging to the first group, the morbid phenomena reach their climax in the same length of time, and the same subsequent changes take place, but the subsidence of the glandular swellings and the disintegration of the membranous exudations progress slower, and are accompanied by more copious and troublesome discharges from the mouth and nostrils, and greater offensiveness of the breath. The patient also exhibits more dullness, with paroxysms of restlessness, especially when the fauces and nostrils become obstructed by the mucous or muco-purulent discharge, as is apt to be the case in infants and young children. The pulse becomes more weak, the bodily temperature returns more slowly to the natural standard, although the skin and extremities may even feel unduly cold, and the patient is longer troubled with difficulty of deglutition, and more tendency of food and drink to regurgitate through the nostrils. Yet, in nearly all of these cases, the disease completes its course, and convalescence is established by the middle or latter part of the second week. In some, however, the breaking up and disappearance of the false membrane is accompanied and followed by superficial ulcerations in the tonsils and other parts of the throat; and, in a smaller number, one or more of the inflamed lymphatic glands suppurate, forming abscesses in the neck. These occurrences may postpone the establishment of convalescence until some time during the third week from the commencement of the attack.

The second group of cases, including all those in which the diphtheritic inflammation invades the larynx, will be presented to you under two aspects: one, in which the inflammation enters the larynx apparently by extension from the pharynx, and generally manifests itself first between the fourth and seventh days after the commencement of the disease, or even after convales-

cence has fairly commenced; the other, in which the inflammation attacks the larynx primarily, giving rise to hoarseness of voice, stridulous breathing and croupal cough, from the beginning of the patient's sickness. In both, the general symptoms are the same as in ordinary diphtheria.

In all the cases in which the local disease develops in the larynx by extension from above downward, and does not commence until several days after the beginning of the general diphtheritic disease, there can be no difficulty in making the diagnosis. But when the larynx is invaded coincidently with the beginning of the sickness, there is often much difficulty in keeping a clear line of distinction between the diphtheritic disease and the ordinary sporadic pseudo-membranous laryngitis. And many writers of the present day regard them as identical, and do not attempt to distinguish the one from the other. In all the cases that have come under my observation, however, the diphtheritic laryngitis has been accompanied by some redness and swelling of the tonsils and other glands in the neck; a soft, weak pulse; more dullness of expression, and earlier symptoms of exhaustion. In all these cases the inflammation in the larynx is accompanied by a rapidly increasing exudation, which solidifies into a thick, firm layer of false membrane over all the interior of the larynx, the cartilages at the opening of the glottis, and often downward through the trachea and into the larger bronchial tubes. The voice becomes early suppressed, the cough rough, stridulous and suffocative; the breathing difficult, and accompanied by a tight, wheezing sound in the neck at first, but subsequently accompanied by mucous rattle. To these local symptoms of direct obstruction in the larynx, there is added a soft, quick, weak pulse, somewhat purplish or leaden color of the lips, and fullness or bloating of the face; coolness of the extremities, with moderate increase of temperature in the head and trunk of the body; drowsiness, with temporary paroxysms of restlessness and tossing; often difficulty of deglutition, and scantiness of urine. In very severe cases, the dyspnœa and rattling in the throat and larynx increases every hour, with frequent paroxysms of choking, strangling cough, during which more or less of a thick, ropy mucus is forced out, containing shreds of the false membrane;

after which, for a brief time, the breathing is easier. But the obstruction soon accumulates again, causing the sense of suffocation and struggling for breath to be renewed, until the imperfect oxygenation and decarbonization of the blood render it no longer capable of sustaining the sensibility of the brain and nervous centers, when the patient becomes somnolent or stupid, the breathing frequent, very difficult, and accompanied by coarse mucous rattling in the air passages; blueness of the lips; coldness and blueness of the extremities; a small and very weak pulse; and finally, relaxation of the sphincters, a general clammy sweat, and death from asphyxia. The fatal result is reached in some of these cases in five or six hours; in a much larger number, however, it is deferred from two to five days. If the tumefaction of the parts within the larynx and the membranous formations are not sufficient to destroy life in from three to five days, the latter begin to loosen and disintegrate, and in the paroxysms of coughing more shreds and patches of the membrane are dislodged and thrown out with a more opaque, muco-purulent expectoration.

The tightness and constriction in the breathing diminishes; the color of the skin and expression of countenance improve; the pulse becomes slower; the mind more active; and in three days, or from seven to nine from the commencement of the laryngeal trouble, all bad symptoms have disappeared, leaving the patient convalescent, but much debilitated. In some cases of diphtheritic laryngitis, the membrane is detached and thrown out, in the severe paroxysms of coughing, in large pieces, presenting, when inflated, more or less of a complete model of the interior of the larynx. Many years since I saw a case in consultation with my colleague, Dr. Hollister, in which the patient, a boy aged seven years, in a violent paroxysm of coughing, expelled a perfect tubular cast of the larynx and trachea, measuring seven inches in length to the bifurcation, and extending beyond to the primary division of the bronchial tubes, having thirteen divisions on one side and eleven on the other. The expulsion was followed by a great degree of immediate relief; but, as frequently happens, the relief was only temporary. Fresh exudations took place on the inflamed membrane, and, extending lower into the

bronchial tubes, renewed the dyspnœa, and proved fatal before the end of the next twenty-four hours.

In the third, or malignant group of cases, the onset of the attack is generally abrupt, and attended by appearances of a chill or cold stage, which is followed by a more rapid rise of temperature of the body; a more rapid development of inflammation and swelling, both in the fauces and glands of the neck, often causing in a very few hours great difficulty of deglutition, inability to open the mouth widely, and the speedy formation of a thick, tough, yellowish membrane over the whole arch of the palate, tonsils and pharynx. The pulse is frequent, soft and weak; breathing noisy from the existence of tenacious mucus in the throat and nostrils, and more frequent than natural; the expression of countenance dull, with a dark or purplish flush; extremities often cool, with leaden color under the nails; urine scanty, and often containing some albumen; and the mind inclined to drowsiness, except in momentary paroxysms of restless tossing, or of efforts to clear the mucus from the throat. Sometimes the attacks of this variety are so severe, and the tumefaction of the tissues within and behind the angle of the jaw so great, that the blood is obstructed in its return from the brain, causing stupor, inability to swallow, extreme frequency and feebleness of pulse, and death in from twelve to eighteen hours after the beginning of the attack. In other cases, the obstruction to the cerebral circulation is less, and life is prolonged from one to five days. In such, during the second day, the inflammation and exudation extend into the nostrils posteriorly, and sometimes into the Eustachian tubes, and even into the middle ear. During the third and fourth days the false membranes begin to disintegrate, the mucus in the fauces and nostrils becomes more abundant, more opaque or muco-purulent, decidedly offensive, and gives occasion to much noise and difficulty of breathing. The inflamed mucous membrane also shows commencing ulceration, and in many cases gangrene. The patient loses strength rapidly, and usually dies from complete exhaustion before the end of the fifth day.

I have now given you a summary of the more important symptoms of the different grades of diphtheria. You observe that it is a disease varying greatly in its degree of severity in different

seasons, and in different cases the same season. So true is this, that I have in some years attended a large number of cases with less than two per cent. of deaths; while in other years, with no greater numbers, the proportion of croupal and malignant cases was so great that the deaths averaged from ten to fifteen per cent. It is not rare that, in the more severe epidemics of this disease, all the children in a family are destroyed within a few days. I remember being called to visit, in consultation, a Scandinavian family in the northwestern part of the city, where I found three children lying side by side on the same table, dressed for burial, and a fourth one dying, leaving only the nursing infant in its mother's arms.

Thus far I have spoken of the diphtheritic membranous exudations as appearing only in the throat and parts in immediate connection with it. The same, however, may attack the vagina and vulva, the lips, the wing of the nose, the conjunctiva of the eye, and any sore or raw surface in any part of the body. I saw one well-marked case, in which a thick layer of false membrane covered one-third of the upper lip, accompanied by considerable tumefaction; and another in which a lady, recovering from an extirpation of a cancerous tumor from one breast, while there was still a healthy granulating surface unhealed, was attacked with the ordinary general symptoms of diphtheria, accompanied with a moderate degree of inflammation and exudation in the fauces. Simultaneously with the appearance of the latter, the uncicatrized surface on the breast became completely covered with a thick layer of false membrane, which remained about three days, and as it disintegrated and disappeared, it was accompanied by an abundant sero-purulent and offensive discharge, with a complete destruction of all the previously healthy granulations. After the diphtheritic disease had disappeared, the raw surface on the breast gradually resumed a healthy appearance, and subsequently progressed to complete cicatrization.

Diagnosis.—From catarrhal sore throat, diphtheria is distinguished by the character of the general fever; the coincident inflammation of the mucous membrane of the fauces and tonsils, with tumefaction of some of the lymphatic glands near the angle of the jaws; and still more by the appearance of more or less

diphtheritic exudation on some part of the inflamed structures. The diagnostic differences between diphtheria and ordinary sporadic croup or active pseudo-membranous laryngitis, I pointed out when giving the symptoms of the croupous variety of diphtheria, and need not repeat them. From scarlet fever, diphtheria is distinguished by the much less sudden and severe onset of the fever, the presence of diphtheritic membranous exudations, and the absence, generally, of any exanthematous eruption upon the skin. In some epidemics of diphtheria quite a proportion of the cases will be accompanied by a moderate amount of a fine red exanthematous rash, causing the surface to much resemble mild cases of scarlet fever. But the milder grade of general fever, and the coincident existence of white patches of diphtheritic membrane in the fauces, will usually enable the practitioner to keep the diagnosis correct. It has undoubtedly happened, however, when both these general febrile diseases were prevailing in the same community, that they have manifested a disposition to commingle the characteristic symptoms of both in the same patient, thereby causing doubt and sometimes controversy concerning the diagnosis. It is more proper to regard such cases as presenting the combined or simultaneous presence of the causes of both diseases, in the same manner as we recognize the coincident action of the causes of typhoid and periodical fevers, producing what has been styled typho-malarial fever.

Prognosis.—The prognosis has been pretty fully indicated by the clinical history I have just detailed to you. All the milder cases tend toward spontaneous recovery in from seven to fourteen days. The more malignant and the croupous groups of cases manifest a strong tendency to end in the death of the patient, and are always productive of a high ratio of mortality.

Pathology.—I regard diphtheria as a general febrile affection, arising from some cause or combination of causes by which the properties of the blood and of the organized structures are so changed as to render the fibrin more disposed to solidify or coagulate than natural, and to lessen the tone and contractibility of the muscular structures, with special tendency to develop asthenic inflammation of greater or less severity in the mucous membrane of the throat and adjacent lymphatic glands. That the general

disease is one of a typhoid or adynamic character, and the local inflammations asthenic, is proved by the generally soft, compressible pulse, universal muscular weakness, liability to syncope from moderate exertion, and the aplastic character of all exudations. By the latter I mean the uniform tendency of all the membranous exudations, however thick or tough they may be, to undergo degeneration and dissolution, never taking on permanent organization or becoming a bond of union by adhesively uniting surfaces that may be in contact with each other. This view is further corroborated by the frequent occurrence of muscular paralysis as a sequel of the disease.

Treatment.—From these views of the pathology of diphtheria I deduce four well defined, rational indications to be fulfilled by treatment: First, to arrest the further infection and deterioration of the blood. Second, to improve the general tonicity of the tissues by increasing the vital affinity. Third, to sustain the nutritive and excretory functions as near their natural condition as possible. Fourth, to mitigate the violence of such local inflammations as may exist in each individual case. To fulfill the first of these indications, the chief reliance has been placed on the internal use of chlorine, bromide, iodine and their salts, such as the chlorates of potassium and sodium; and to this have been added more recently, the sulphurous acid and the sulphites of sodium and calcium, the benzoate of sodium, the sulpho-carbolate of sodium, and the permanganate of potassium. Of these, I think the aqueous solution of iodine, the chlorate of potassium and the benzoate of sodium are the most important. To fulfill the second indications, I rely principally upon a judicious use of quinia, iron, strychnia, pure air and nourishment; even when temporary stimulants are needed, carbonate of ammonium and camphor are the most reliable. Many recommended strongly the use of some one of the alcoholic class of drinks, and mention the extraordinarily large doses borne by diphtheritic patients without intoxicating effects. So far is this from affording a reason for their use, that I should construe it in the opposite direction. Both the general susceptibility of the tissues and the sensibility of the nervous system are blunted or below the normal standard, and consequently, anæsthetics like alcohol, are neither indicated nor

readily responded to when given. The same principle or therapeutic rule applies here, that I explained more fully when speaking to you in relation to the treatment of typhoid fever.

If you can succeed well in fulfilling the first and second indications as now explained, the fulfillment of the third follows as a necessary result. Yet, when called early, and you find the skin hot and dry; urine scanty; tongue coated; and bowels inactive, you can give a small alterative dose of calomel with bicarbonate of sodium, every three or four hours, until three doses are taken; and if the bowels do not move in three hours after the third dose, give a mild laxative, and it will generally produce a favorable effect. The action of the skin and kidneys may be further sustained by suitable doses of spirits of nitrous ether and liquor ammoniæ acetatis. To fulfill the fourth indication, namely—to lessen the severity of the local inflammation in the fauces, air passages, and glands of the neck, a great variety of local applications have been used. During the severe epidemic in this country, occurring between 1856 and 1864, nitrate of silver in all gradations of strength, from the solid stick to a solution of 0.33 grams (grs. v.) to 30.0 cubic centimeters (fl. ℥j.) of water, was extensively and perseveringly used locally, with the expectation of arresting the membranous exudation and of limiting the extent of the inflammation. After an abundant experience, its use was abandoned by nearly all the more accurate observers as either useless or positively injurious. Applications of strong solutions of sulphate of copper, tincture of iodine, and tincture of the chloride of iron, were tried with no better results, and the profession generally had come to regard local applications of any kind as a matter of secondary importance, until Oertel and others again promulgated the doctrine that diphtheria is primarily a local disease, produced by the direct action of bacterial germs on the mucous membrane of the fauces and air passages, and through which they entered the blood, and secondarily, produced general infectious fever. Under this teaching the early and thorough local application, not of caustics, but of strong antiseptics or germicides, as carbolic, salicylic, benzoic and sulphurous acids, were brought prominently to the notice of the profession, and received the unqualified commendation of many practitioners. During the past

ten or twelve years diphtheria has prevailed with average severity in most of our large cities and in many country districts, affording abundant opportunities for testing the virtues of this class of remedies. And, aided by the coincident extravagant ideas in regard to the uses of antiseptics in the practice of medicine and surgery generally, they were enthusiastically applied in every form, and every degree of strength; in solution, with the swab and syringe; in spray, with the atomizers; and in vapor, by inhalations. As might be expected, the results, as reported at the various medical society meetings and through the medical press, have been varied. As a general rule, those who met the disease in a mild form reported great success. Those who met the disease in its more severe and malignant aspects, reported the usual ratio of mortality, and pronounced the germicide treatment useless. A middle class of practitioners, like a member of the Illinois State Society, reported, with enthusiasm, that the thorough application of pretty strong solutions of carbolic acid had aborted every case that had come under his treatment *before* the inflammation and exudation had entered the posterior nares or the larynx. But unfortunately the disease had extended beyond these limits in so many cases before coming under treatment, that the actual ratio of mortality to the whole number of cases treated, was the same as usual.

So, gentlemen, if you will diligently examine the statistics of cases and mortality in all the cities and municipalities in which such statistics have been kept, for the past ten years, in which germicidal theories and practice have predominated, with the same class of statistics for the preceding ten years, you will find no evidence that such practice has resulted in diminishing, in any degree, the ratio of mortality below that of the former decade. Having already stated to you that I regard diphtheria as primarily a general febrile affection, developing certain local inflammations of peculiar character during its progress, and having now explained the several object, to be accomplished in its treatment, it only remains for me to indicate more definitely which of the remedies mentioned for the several purposes I deem best, and their mode of use as adapted to the several stages of the disease. In the milder cases of simple diphtheria, very little medication is

either necessary or proper. For such, I direct a diet of milk and farinaceous articles, rest, as fresh good air as possible, a moderate, comfortable temperature of the room, and the following prescription for medicine:

℞	Potassii Chloridi.....	10.0 grams.	ʒijss
	Acidi Muriatici.....	4.0 c. c.	ʒj
	Tincturæ Belladonnæ.....	10.0 c. c.	ʒijss
	Aquæ.....	260.0 c. c.	℥viii

Mix. Give from two cubic centimeters (fl. ʒss.) to eight (fl. ʒjj), or from half a teaspoonful to a dessert spoonful, according to the age of the patient, every two or three hours, without further dilution. The application of this solution to the fauces and throat, is made much more complete and easy by swallowing it, than by any process of swabbing, sponging or gargling; while its introduction into the system constitutes one of the best means for fulfilling the first indication for general treatment. The solution of the chlorate of potassium with the mineral acid, combines the properties of an efficient antiseptic and tonic, while the influence of the belladonna on the vessels of the mucous membrane and glands of the throat and neck tends to lessen both tumefaction and membranous exudation.

During the last thirty years I have treated very many cases of mild diphtheria, without any other medication than the use of the formula just given. If, at any time during its use, the effects of the belladonna accumulate sufficient to perceptibly dilate the pupils, the dose should either be diminished or given at longer intervals. In cases of greater severity, yet not positively malignant, I give the same formula in the same manner during the first three days after the commencement of the disease. If the patient has been previously healthy and well nourished, and the pulse and temperature rise pretty actively, with scantiness of secretions, I give in addition during the first day, an alterative dose of calomel at intervals of once in two or three hours until three doses have been taken; and, if necessary, follow them by a mild laxative or warm water enema. After the bowels have moved, I direct a solution of iodine 0.33 grams (grs. v.) and iodide of potassium 2.0 grams (grs. xxx.) in 45 cubic centimeters (ʒjss) of water, to be given in doses suited to the age of the

patient, every six hours. During the same early stage, if the tonsils and glands behind and below the angle of the jaw commence to swell actively, I keep the external parts closely covered with cloths wet in an infusion of aconite leaves and chloride of ammonium, 30 grams (℥j) of the former, and 15 grams (℥ss) of the latter to one litre (Ojj) of boiling water. When, from any cause it may be difficult to keep the wet cloths applied properly, the following liniment may be used instead:

℞ Olei Olivæ.....90.0 c. c. ℥iij.
Olei Terebinthinæ.....15.0 c. c. ℥ss.
Chloroformi.....15.0 c. c. ℥ss.

Mix, and apply to all the external swollen parts every three hours, or often enough to keep the surface moist. If, under the remedial agents I have now mentioned the case progresses favorably, and when the time for the membranous exudations to begin to loosen and disintegrate comes, which is generally from the third to the fifth day, the breath and saliva do not become offensive, and the swelling of the glands does not increase further, there need be no essential change in the treatment except to lessen the frequency of doses as the disease declines, and an early convalescence will be reached. But if, at the stage just mentioned, the breath becomes offensive, the saliva more abundant, and mixed with more or less muco-purulent or sanious discharge from the throat and nostrils, with more dullness of expression and a softer pulse, I immediately exchange the chlorate of potassium and belladonna solution for the tincture of chloride of iron and quinine, given in moderate, but frequently repeated doses, and require more diligence in giving nourishment. The solution of iodine may generally be given with benefit two or three days longer. Under the influence of the quinine, iron, and simple nourishment, the patient will pass the crisis of the disease with only a moderate amount of ulceration and suppurative action in the inflamed membranes, and the general febrile symptoms will gradually decline until convalescence is established. In some of the more severe and malignant cases, the crisis of the disease is marked by great weakness, a more copious flow of offensive muco-purulent matter from the mouth and nostrils, and more extensive destruction of the inflamed structures by ulceration, and some-

times by gangrene. In such cases, I continue the use of the quinine and iron, and, in addition, give carbonate of ammonium and camphor, in moderate but frequently repeated doses, and add to what nourishment is taken by the mouth, the use of nutritive enemas. Unfortunately, in many of these cases, deglutition is so impaired that neither medicines nor nourishment can be swallowed in sufficient quantity to effect the needed support. Even in such, much can be done to sustain them until the throat begins to improve, by a judicious use of milk, beef tea, and other items of nourishment in the form of enemas, and most of the medicines required can be added to the enemas. Further support may also be given by inunction of cod-liver oil, in which may be suspended a small amount of strychnine. To a litre (Ojj.) of cod-liver oil may be added 0.2 grams (grs. iii) of strychnine. This may be well shaken and applied sufficient to anoint nearly the whole surface of the body three times a day. In the cases that present a strongly malignant aspect from the beginning, I give the quinine and tincture of chloride of iron, alternated with the carbonate of ammonium and camphor at once; and during the first twenty-four hours apply freely over the trunk of the body the cod-liver oil, holding in solution a small proportion of iodine; and, after the first day, the strychnine may be added in the proportion already stated.

During the last few years, I have used a solution of the benzoate of sodium as a substitute for the chlorate of potassium, and belladonna solution, in the early stage of the disease. Ten grams (℥jjss.) may be dissolved in 120 cubic centimeters (fl. ℥iv.) of water; of which four cubic centimeters, or one teaspoonful may be given to an adult every two hours. It appears to exercise much influence in limiting the amount of the membranous exudation, and is particularly well adapted to the early stage of the more active sthenic class of cases. Again, in the second stage of the disease, if the muco-purulent discharge from the nostrils becomes copious and offensive, or irritating to the parts with which it comes in contact, it will do good to have nostrils syringed out freely at least twice in the twenty-four hours, with a weak solution of carbolic acid and sulphate of zinc or of permanganate of potassium. If an anodyne is required at night to aid in procur-

ing rest, I know of none better than a powder containing the compound powder of opium and ipecac, 0.33 grams (grs. v.) and pulverized gum camphor 0.13 grams (grs. ii.) for an adult, and proportionably less for children.

I have now given you an outline of that course of treatment of the several stages and grades of severity of this disease, which has been, in my hands, the most beneficial to my patients, leading to the highest ratio of recoveries and leaving the smallest ratio of important sequelæ. One variety of cases, however, has been omitted from this outline, namely, the croupous or laryngo-tracheal. When the diphtheritic inflammation invades the larynx, whether primarily, with the beginning of the attack, or secondarily, by extension from the pharynx, I give, as early as possible, an emetic dose of the sub-sulphate of mercury, and repeat it at intervals of from two to six hours, until the stage of increasing exudation has passed. Thirteen centigrams (grs. ii.) of the sub-sulphate given in the form of powder, will generally produce prompt and free vomiting in children from three to five years of age. For older patients the dose should be increased, and for younger ones diminished. In the interval between the emetics, I give during the first twelve hours, a small dose of calomel and bicarbonate of sodium every two hours. To children from three to five years old, six centigrams (grs. i.) of calomel and twelve centigrams (grs. ii.) of the sodium, may be given at a dose. During the same period of time, a solution of lactic acid, 0.33 cubic centimeters (min. v.) to 30. c.c. (fl. ℥i.) of water should be frequently thrown into the fauces in the form of spray from an atomizer, and the liniment I have previously mentioned, containing oil of olive, oil of turpentine and chloroform, applied freely to the front and lateral parts of the neck externally. After the first four or five doses of the calomel and sodium have been given, they are omitted, and I give, instead, a solution of lactate of iron, 4 grams (℥j.) to 120 cubic centimeters of water (fl. ℥iv.) of water, of which 2 c.c. (fl. ℥ss.) or half a teaspoonful, may be given every two hours. If the invasion of the larynx has been secondary, several days after the commencement of the general disease, I omit the calomel and sodium powders, and commence the use of the solution of the lactate of iron, alternated

with quinine, at once. In all other respects their management is the same as I have just indicated.

Sometimes a mild anodyne and expectorant influence is needed to lessen the violent spasmodic quality of the cough and aid in promoting rest—especially in the later stages of the disease. For such purpose I know of nothing better than an equal mixture of the compound syrup of squills and camphorated tincture of opium, given in doses suited to the age of the patient. If a judicious use of the remedies I have just detailed should fail to relieve the patient, and suffocation be impending, the only alternative is a resort to tracheotomy, which almost always affords a surprising degree of temporary relief, but is very generally followed by an extension of the inflammation into the bronchial tubes and the ultimate death of the patient. During all the treatment of the croupous cases the temperature of the room should be kept a little above the usual standard of healthy comfort, and the air constantly impregnated with aqueous vapor. Some place much reliance on the inhalation of the vapor of hot water, in which quicklime is undergoing the process of slacking. I have seen it perseveringly tried many times, but with very little effect. I regard it of far less importance than the lactic acid spray, and even less beneficial than the old-fashioned remedy, consisting of the free inhalation of the vapor from a hot infusion of hops in vinegar.

Convalescence.—Due attention should be given to the management of the period of convalescence from all grades of diphtheria. To secure a proper action of the skin and kidneys, and promote the renewal of a healthy tone and sensibility in the muscular and nervous structures, the patient should be kept much at rest; well protected from sudden atmospheric changes by flannel underclothes; judiciously supplied with fresh, dry air, and plain, nutritious, and easily-digestible food. In the convalescence from severe cases, the taking of a small dose of strychnine or nux vomica, with a soluble salt of iron at each regular meal-time, will be of much benefit, both in hastening the return of strength and in lessening the risk of paralysis.

Prophylaxis.—The best means of preventing the spread of diphtheria is to isolate, as far as practicable, all cases as they

occur, and maintain essentially the same sanitary regulations as I mentioned for the prevention of typhus and typhoid fevers.

Sequelæ.—Congestion of the cortical texture of the kidneys, and general dropsy occasionally occur as a sequel of diphtheria, though much less frequently than after scarlet fever. For the treatment of such cases I refer you directly to the lecture on the sequelæ of the fever just named. The most frequent and troublesome of the affections that are liable to arise during the convalescence from diphtheria is some form of paralysis. In most cases it is limited to the muscles of the fauces and pharynx, and is only sufficient to simply give the voice a decided nasal quality, and make deglutition a little difficult; but is sometimes so complete as to render swallowing altogether impossible. During the prevalence of the disease in this city in 1858–9, I saw a case of this kind with the late Dr. J. A. Collins. The patient was a boy about eight years of age; and it was necessary to feed him liquid nourishment through a stomach-tube for two weeks, before he regained the power to swallow anything.

While the paralysis more frequently attacks the muscles of the fauces and throat, it may manifest itself in any one or more of the voluntary muscles in any part of the body and extremities. Or it may attack one set of muscles after another, until, like rheumatism, it has passed in succession over a large proportion of the voluntary muscles of the system. A case of this kind was brought to the Mercy Hospital two years since. It was in the person of a young man who had passed through a moderately severe attack of diphtheria, and recovered so far that he had begun light out-door work.

He first lost the power of speech and deglutition. In a few days these functions began to improve, when he lost all voluntary motion of the muscles of one side of his face and eye. Just as he was regaining control over these, the paralysis involved the muscles of both upper and lower extremities, and was so near complete that he could neither feed himself nor stand on his feet. It was at this stage of his disease that he was brought into the hospital. The paralysis following diphtheria, whether partial or complete, appears to be a simple loss of nervous force or muscular contractility, and is not accompanied by any inflammatory or

febrile symptoms, or even local pain and soreness. It very generally tends towards recovery, and probably never ends fatally, except in very rare instances, when it attacks the muscles of respiration or of the heart. No case has terminated fatally or failed to recover, within the circle of my own practice. The only remedies necessary are rest, good air, nutritious and easily-digestible food, and muscular and nerve tonics.

Of the latter, we have none better adapted to these cases or more promptly curative than strychnine, citrate of iron, and the hypophosphites. To an adult or patient over fifteen years of age, I give a pill or capsule containing strychnine, two milligrams (grs. 1-30), and citrate of iron, thirteen centigrams (grs. ii), before each meal-time; and four cubic centimeters (fl. ʒi) of either the syrup of the lacto-phosphate of calcium, or of the compound syrup of the hypophosphite of sodium, calcium, and iron, half an hour after each meal. Of course, proportionately less doses must be given to younger children.

Under such management the patients usually make a good recovery in from one to four weeks. The daily application of mild currents of electricity or galvanism has also proved beneficial.

HOT WATER IN THE TREATMENT OF HÆMORRHOIDS.—Landowski (*Chl. f. Chir.* from *Jour. de Thérap.*) suggests hot sitz-baths in bleeding piles, together with enemata of hot water. These not only check the bleeding, but diminish the size of the turgescent tumors to a marked degree. In ordinary hæmorrhoids three sitz-baths per diem may be employed. In bleeding piles the baths should be more frequent, and the enemata should be given as hot as the patient can bear (usually about 104°). *Louisville Medical News.*

Original Communications.

ARTICLE II.

PUERPERAL ECLAMPSIA; HIGH FORCEPS OPERATION; RECOVERY. By THEODORE TRUMBULL, M.D., of Monticello, Florida.

Carrie B., æt. seventeen, primipara, was delivered on October 20, 1881. Her labor commenced by the discharge of the liquor amnii, about one o'clock on Monday morning. On the Tuesday prior to her confinement she complained of severe cephalalgia, dim vision, and transient dizziness, spots before the eyes and œdema of the subcutaneous cellular tissue, especially of the face. On the morning of her delivery she awakened with complete loss of sight, and soon thereafter was seized with a convulsion. She had eight strong convulsions between six and twelve A. M., at which time I arrived. I gave chloroform inhalations at short intervals; not keeping her completely anæsthetized. She had bitten her tongue, and was somewhat semi-stupefied ere the administration of the chloroform. She was again seized at 12:30, the attack lasting one minute and fifteen seconds, with frothy saliva collecting about her mouth, pulse full and carotids bounding; the whole appearance was so changed as to render the patient quite unrecognizable. The attacks would first begin by the violent twitching of the muscles of the face; her expression was horribly altered; the globes of the eyes were turned up under the eyelids, so as to leave only the sclerotics visible, and the angles of the mouth were retracted and fixed in a convulsive grin. The convulsive movement soon attacked the muscles of the body; after the face, the hands and arms, at first rigidly fixed, with the thumbs clenched into the palms; then the whole

muscular system was thrown into rapidly recurring convulsive spasms. At 1:45 P. M. she had another, which lasted longer than the one prior. When in full headway, her radial arteries ceased to beat, while the action of the heart was very feeble, and the sounds, though normal, seemed distant, as though a pillow were placed between her chest and the ear of the auscultator. The involuntary muscles were implicated, as well as the voluntary, as was verified by the temporary arrest of respiration at the commencement of the attack, followed by irregular and hurried respiratory movements, producing a peculiar hissing sound. During the attacks sensibility was totally suspended, and the patient was unconscious even between the attacks, or in rather a stupefied condition.

On examination per vaginam, I found the os uteri dilated to a certain extent, yet the cervix was in reach. Seeing that the expulsion of the uterine contents alone could save the life of the suffering and completely exhausted primipara, I therefore resorted to instrumental delivery, and my only expedient was the high forceps operation. After placing the patient under complete anæsthesia with chloroform, then placing her near the edge of the bed, with the thighs flexed on the abdomen, an assistant at each knee, I proceeded. As stated above, the os was not fully dilated, but enough for the forceps to be scientifically introduced. I lubricated my left hand, then introduced it in the vagina as a guide, to avoid any possibility of injuring the cervix; then, with my hand in the vagina, introduced the lower blade of Hodge's lever forceps, previously oiling the outside of said blade. Finding the bladder distended, I introduced a catheter, and drew off about twenty ounces of urine (which proved, by testing, to be cloudy with albumen); this being done, I introduced the upper blade, which was done with more difficulty. Finally I succeeded in locking my instruments; then I began making traction downward toward the perineum. The pains being absent, my tractions were intermittent, so as to imitate nature as nearly as possible. When the caput succedaneum was pushing against the vulvæ, I elevated the forceps upward toward the mons veneris. The contents of the rectum and the little urine which still remained in the bladder made their escape through their normal orifices, which

in all cases is exceedingly disagreeable to the attendants, especially the accoucheur; hence the necessity of keeping the bowels open during the last week of utero gestation and an enema the day before; but in this case time was too precious and life too dear to delay one moment for preparatory cleanliness. A fine boy (stillborn) was delivered at 4:35 P. M. When I first arrived, by auscultation the fœtal heart, also the placental soufle, could be distinctly heard. The umbilical cord was wound tightly around its neck; whether that produced its death, or whether it was seized with convulsions in utero remains a mystery, as either would have caused its death. Attempts were made to reanimate it by inflating the lungs, friction, etc., but without effect; the heart could not be made to beat even once. The cord was then severed.

She had only one convulsion after the delivery. Pulse 148, respiration normal, with occasional sighs; would notice no one; very restless and thirsty. Ten P. M., about the same; completely exhausted. October 21, two A. M., pulse 102; respiration 20; somewhat quiet; micturated during the night. Seven A. M., pulse 90; talks with attendants, knowing nothing about what happened, and asks why the doctor was there; sight good enough to distinguish faces. Uterus contracted nicely, and supporting bandage all right. Three P. M., some fever, which continued during the night. October 22; feeling better; no fever; pulse soft and slow. Relished a cup of coffee and some gruel; sight fully returned. Tongue sore from being bitten during the attacks; micturates without difficulty.

The precise pathology of eclampsia cannot be considered by any means satisfactorily settled. When, in the year 1843, Lever first showed that the urine in patients suffering from convulsions was generally highly charged with albumen, a fact which subsequent experience has amply confirmed, it was thought that a key to the etiology of the disease had been found. It was known that chronic forms of Bright's disease were frequently associated with retention of urinary elements in the blood, and not rarely accompanied by convulsions. The natural inference was drawn, that the convulsions of eclampsia were also due to toxæmia resulting from the retention of urea in the blood, just as in the uræmiæ of chronic Bright's disease; and this view was adopted and supported

by the authority of Braun, Frerichs, and many other modern writers of eminence, and was pretty generally received as a satisfactory explanation of the facts. Frerichs modified it so far, that he held that the true toxic element was not urea, as such, but carbonate of ammonia, resulting from its decomposition; and experiments were made to prove that the injection of this substance into the veins of the lower animals produced convulsions of precisely the same character as eclampsia.

Dr. Hammond, of Maryland, subsequently made a series of counter experiments, which were held as proving that there was no reason to believe that urea ever did become decomposed in the blood in the way that Frerichs supposed, or that the symptoms of uræmia were ever produced in this way.

Spiegelberg has, more recently, again examined the question clinically, in a patient suffering from convulsions, in whose blood an excess of urea and ammonia was found, and by experiments on dogs, and maintains the accuracy of Frerich's views. Others have believed that the poisonous elements retained in the blood are not urea or the products of decomposition, but other extractive matters which have escaped detection. Broxton Hicks, who has recorded a considerable number of cases, says that albuminuria and convulsion are almost invariably combined, and must be explained in one of three ways:

First. That the convulsions are the cause of the nephritis.

Second. That the convulsions and the nephritis are produced by the same cause, *e. g.*, some detrimental ingredient circulating in the blood, irritating both the cerebro-spinal system and other organs at the same time.

Third. That the highly congested state of the venous system induced by the spasm of the glottis in eclampsia, is able to produce the kidney complication.

TREATMENT.

On my arrival I gave inhalations of chloroform (Squibbs') at short intervals; seeing no decided effect, I ordered the following:

℞ Chloralis hydratis.....ʒvɔj.
Potass. bromidi. .....ʒj.
Tinct. opii deodorat.....ʒiv.
Aquæ fontis. .....ʒiijss.

M. Sig. Give a dessertspoonful in a tablespoonful of water every three hours.

This mixture acted like a charm in warding off the attacks. Fluid extract of ergot was given (drachm) in the second stage. After the expulsion of the placenta, which occurred twenty minutes after the delivery, a profuse hæmorrhage set up, which was checked by the administration of ergot, tamponing the vagina and kneading the uterus. It soon, however, assumed the size of a cricket ball; then the supporting bandage was properly adjusted. Ordered light but nourishing diet. Sulph. cinchonidia, grs. viij, every morning at six o'clock. October 21,

℞ Kal. iodidi .....3x.
Tr. belladonnæ 3iv
Aquæ fontis..... .....℥ijss.

M. Sig. Give a teaspoonful three times a day; also apply over each mamma a belladonna plaster 6 by 6, to produce galactischesis.

Ordered the vulva and external orifice of the vagina thoroughly lubricated, and the vagina syringed with tepid water, with a few minims of carbolic acid, and a warm towel to be kept over the parts.

October 22. Pulse normal; improving. Slight cephalalgia; complains of photophobia. 23d. Still improving; half ounce of oleum ricini; chloral mixture (formula above) to be given three times a day. 24th. Appetite returning; removed plasters from breasts. Sleeps well at night. Had two stools; slight fever in afternoon. 25th. Chloral mixture every morning. Slight increase of temperature; still complains of photophobia. 26th. Improving; appetite good; plasters removed; sat up awhile. 28th. Milk ceased oozing; no fever. Lochial discharges slight, pale greenish color and very sickening aroma; hence familiarly described as "green waters."

ARTICLE III.

NEOPLASM. By H. D. VALIN, M.D. Read before the Chicago Pathological Society, January 30, 1882.

Life is an integration, and disease a disintegration of force. As integration necessarily takes place at one point at the expense

of disintegration at another point, it results that wherever growth or development is taking place, vitality is slightly in excess; while in cases in which there is decadence, there is an excess of diseases. This is well illustrated in old age.

This biological law of relation between decline and disease is applicable to organisms in general, animals or plants, to species and series of individuals, and, by analogy, is also applicable to social or moral organisms; that is, religions, governmental and educational institutions.

Protoplasm, or protein, is a compound of carbon, hydrogen, nitrogen, sulphur and oxygen, which constitutes the plasma and fills the cells of young plants and animals.

Neoplasm is a strictly abnormal growth. It has no regular chemical composition, may or may not be endowed with life, and is generally recognized from its useless or harmful propensity in the economy of life. As protoplasm is the physical basis of life, neoplasm is the material basis of disease.

In the unity of nature, we first meet with the equivalent of neoplasm in the crystallization of minerals. Thus, according to the degree of impurity of the solutions used, we obtain crystals containing some extraneous substances which are useless, or may impair the quality of the crystals in various respects. Most of the crystals formed in nature are impure.

In plants, especially the least organized, as the equisetaceæ, a large quantity of sand and dirt finds its way along the vessels into every part of the plant; and so also, in some degree, in the greater part of the vegetable kingdom. One of the causes of this is that matter is primitively indiscriminately mixed in the soil, through the agency of water and other actions, and cannot at once become differentiated into definite organic compounds but it does so after passing through various series of organisms, each one of which eliminates its part of the foreign elements. Thus, in higher animals, the inorganic primitive substances are not by any means so common. They are frequently found, however, and we have the satisfaction of knowing that we can introduce more or less of all the sixty-eight elements into the animal economy without interfering to any very great extent with the process of life—which sustains the fact that, after all, the substance

of an organized being is very near that on which that organism feeds.

The clearest instance of an accumulation of foreign matter in the human body is probably found in those cases in which the bones have been loaded with mercury to such an extent as to be greatly increased in weight; or the cases of chronic lead-poisoning in which we are enabled to recover the metallic lead from the tissues. We have another instance of accumulation in uræmia; for not only is inorganic matter a factor in neoplasm, but so also is organic matter. Thus, it is possible for crystals, as those of the calcareous sponges, to contain protein. The lower plants, when fed too much manure, cease to grow, and in those wonderful plants, as the Sarracenia, which feed on small animals, sometimes some large insects are caught by them, which eat their way out, causing the destruction of the plant instead of promoting its growth. In the same manner, animals sometimes die after eating other animals or plants to which their systems have never been accustomed. Trichinæ and anthrax act in this manner in man, and so also, probably, all the infectious diseases. But the absorption of living organisms, and their elimination, give rise to a highly complex process.

Thus far, we have only considered extrinsic elements in their absorption, and we may now consider them in the act of being secreted. In crystals, foreign particles may not materially interfere with the chemical affinity of the compound, and although it may provoke an earlier disintegration, at any rate it cannot be eliminated until a re-crystallization takes place. There is no doubt that the same is nearly true of plants. However, here we sometimes come across excretions and secretions, and in highly organized plants, these secretions are a metamorphosis of protoplasm into oil, sugar or starch. We also find in plants genuine tumors, though generally produced by the irritation of fungi and insects. Through these growths, an elimination of unsuitable elements often takes place. These elements and these growths are both neoplasm, as defined above. Foreign material is often taken in the food, remaining in contact with the tissues, and the immediately surrounding cells slowly displace it as they continually work from the center to the periphery of the organism,

following the course of growth. But the protoplasm which infiltrates through these foreign elements is not organizable, and is also discharged with them by more healthy tissues. In animals, as in plants, an early decay of neoplasm also helps in its elimination.

Neoplasm, as every substance in nature, reacts to chemical action, and in that manner, even purely inorganic deposits in an animal tissue must grow as long as the same element is absorbed in excess by the animal, or is absorbed in excess by surrounding tissues. There is hardly any doubt that growth mostly proceeds from a chemical union, in each cell, of the proximate principles of protein. At any rate, Gubler has formulated the law of localization in this manner: "Substances foreign to an organism rejoin their like or their analagous elements among the normal principles of that organism." * This explains the origin of those concretions found in old cases of gout, and of concretions in general.

Not only foreign elements and neoplastic tumors are rejected, but what was once healthy tissue may be rejected in senile gangrene; because, as in gangrene in general, the circulation has stopped in such tissues, from various causes.

According to the laws of generation, any one cell of a higher organism strictly corresponds to the whole, and undergoes the same changes on a small scale, and its growth must, under the same circumstances of force and surroundings, reproduce the parent in every particular.† The reason of this is that the various modes of force act through all substances in inverse ratio to the distance.

Thus, a cell which has become a part of a tissue, has been differentiated chiefly by the immediate action of that tissue, and it will be more likely to reproduce that same tissue under favorable conditions. Hence, in low organisms, in some lizards, an amputated limb is reproduced in the neighboring tissue, and in man, cartilage cells give birth to cartilage; skin cells to new integument, etc., and cancer cells reproduce cancer. But these

* E. Haeckel, *Journal de l' Anatomie et de la Physiologie*, etc., Nov., 1875.

† *Vide* "A New Theory of Generation," in the February No. (1882) of THE CHICAGO MEDICAL JOURNAL AND EXAMINER.

same cells also prove their ability to reproduce the whole organism in certain tumors, in which most all the varieties of tissues are sometimes represented.

Besides spermatozoa and ovules, the cells mostly endowed with the genetic process are the white corpuscles of the blood, which keep on the changes of life for weeks under the microscope. If we overlook monsters, which are properly the first steps in abnormal genetic formations, the process of reparation in wounds is the most simple instance of abnormal growth. Here we find that the cells of the blood are set free, a most abnormal state; but they continue to organize into tissues, though these cicatricial tissues are never so perfect as the normal tissue was. Hence the liability on the part of such structures, under various circumstances, to start into growth anew, and give rise to tumors. Tumors, from warts up to cancers, are often proven to be contagious, most naturally, for contagion is nothing else but a conservation of vitality in any cell or granule of protoplasm, in passing from one animal body to another. No one could deny that every cell is an animal or a plant in itself, be it blood, cartilage, or a seed, for it is endowed with a life of its own.

Besides the organization of new tissue, we sometimes meet with the establishment of a new function in wounds, but more often in chronically inflamed mucous membranes; a function of excretion, through which a great deal of urea, and other results of tissue metamorphosis, are continually eliminated. These functions act to such a degree as to reduce the work of some physical function. Thus, in profuse leucorrhœa, the bowels almost cease working, and in diabetes the skin atrophies from disuse, it seems. These new functions, however closely related to cancer they may be, do not generally come under that head.

Hypertrophy is another process closely related to the formation of tumors. Indeed, an excess of growth is something abnormal, and generally results from over-feeding an organ, as in hypertrophy of the muscles of the arm in pugilists and blacksmiths; hypertrophy of the breast, etc.; and whenever we have an irregular hypertrophy of a part, we call it a tumor.

Tumors, having a life of their own, are antagonistic in their growth to the growth of the animal in which they form, and on

which they live. They necessarily act as foreign bodies, and the healthy tissues separate from them by ulceration, in the same manner that they would if held in contact with any foreign substance. Besides, the cells of tumors are not so highly organized as those of the various tissues, and come to disintegrate much earlier. An early removal of a tumor prevents its recurrence, but after the cancerous elements have penetrated the organism, the same process is likely to repeat itself elsewhere.

New growths are most interesting in their biological relations. They afford the most numerous instances of spontaneous generation, and the best understood also, that is a new organism, the cancer cell, originating from entirely different organisms, the embryonic, or any other cell, or ordinary plasma, under special circumstances. This proposition has been substantiated by the conclusions which one would naturally derive from the late experiments of Drs. Leopold in Germany, and Michael T. Prudden in this country.

Whether tumors ever acquire such individuality as to deserve the name of parasite, and whether any of the well-known parasites were thus evolved from the organism on which they live, is a difficult problem to solve, though the fact that tumors, once evolved, generate by contagion, supports that theory, at all times believed in by some.

We may say that the nature of malignant or recurring tumors is but a slight perversion of the metamorphosis of cells in general; that anything which impairs the system at large is favorable to new growth; that the lack of coincidence as to the time at which various organs or tissues reach their maturity, and the periodical regeneration of organs, like the breasts and the womb, naturally favor new growths; and in corns we have new growths which entirely depend on local irritation. Habitual congestion of a part is also productive of the same result. As to the influence of the mind in the production of cancer, it is not by any means to be rejected. For, of all the modes of force which bring on the differentiation of cells and tissues, there is none so powerful as that complex of modes of force called the mind. It is almost probable that each cell functions in unison with general consciousness; that this rhythm becomes manifest when unduly

increased, and we call it pleasure; or whenever it is decreased, and then we call it pain. But we lack the knowledge and the facts necessary to prove that an organic disease may arise from a peculiar, long continued idea, though we can prove that a disease may be cured through such means.

We find in disease what we find in health, and in life in general; the evolution of one process into another, and of one tissue into another, in the course of time, under determining causes. That is not manifest on studying any process exclusively, but it becomes so upon inquiring into lines of demarkation which are to be found nowhere.

Protoplasm, by losing its nitrogen, becomes cellulose; cellulose passes into sugar; sugar into fat, and the fats seem to pass into albumen. The same in pathology; albumen reverts to fats, in fatty degeneration, or becomes transformed into mucine by losing its oxygen or its sulphur. colloid being an intermediate product in the latter transformation; and amyloid also results from a slight change in the chemical composition of albumen.

Looking at the various processes of disease, we also find that they merge into one another. Thus, the exudation of inflammation, the secretions of ulcers, the hypertrophy of organs, new growths and cancers, are differentiations of an abnormal vital process. Hence the impossibility of forming absolute divisions. But as the boundary margins which unite these diseases are but slightly marked and rarely looked for, it becomes easy to build a classification which answers ordinary purposes.

It is not our intention to describe diseases nor to formulate treatment, but we may say that we do not help nature in its abnormal processes by our treatment; we antagonize such processes. Man, although himself a part of nature, has such a command over various modes of force that he is enabled to re-distribute matter and force on the face of the earth in an opposite manner, almost, from that in which they have been evolved by other natural causes; and wise treatment is active, not passive treatment. Thus, we supply proximate principles to an organism when they are wanting; we remove some of them through evacuants, sudorifics, etc., if in excess; but we especially remove

metamorphosed substances. We also add direct force to an organism in the way of sunlight, heat, electricity, motion and food.

ARTICLE IV.

PULSATILLA IN INFLAMMATIONS OF THE TESTIS. By G. FRANK LYDSTON, M.D.

Although the use of pulsatilla in the treatment of disease has been chiefly confined to the homœopaths, attention has been called to its efficacy, particularly in inflammatory affections of the testis, by several members of the regular profession, Dr. Piffard having especially commended it.

A short time since, having a hospital service in which there were abundant opportunities to test its efficacy, I began its use in such cases. I had previously employed the ordinary methods of treatment, such as applications of ice, hot fomentations, tobacco poultices, etc., thus having ample scope for the comparison of the results derived from the different procedures. The results of the remedy were very gratifying, and in most instances, whether given alone or in combination, superior to the ordinary measures for relief of the above inflammations. The records of the cases so treated at that time I did not retain, but they contained a large number of cases. I have been fortunate enough to have a series of five pronounced cases within the last few months, the histories of which I have, and will recount, hoping that they may prove of interest.

Case I.—*Gonorrhœal epididymitis.*—Patient is a plethoric subject, æt. 35; stated that he contracted a severe gonorrhœa some three weeks previously, which ran the usual course, until two days before consultation, when the right testicle began to swell and became very painful, the urethral discharge having ceased. He complained greatly of dragging pain along the cord The epididymis of the affected side was extremely swollen and of almost stony hardness, and the tunica vaginalis greatly distended. the tenderness on pressure was very marked. He was ordered a mercurial cathartic, and tr. pulsatillæ in 10 m. doses, every two

hours. The testes were supported upon oakum. On the following morning the pain had entirely ceased and the tenderness was perceptibly less. There was no change, however, in the bulk of the testicle, although the fluid in the tunica vaginalis seemed less transparent. At the end of twenty-four hours the pulsatilla was stopped. There was no recurrence of the pain, and on the fourth day the tenderness was so far reduced that strapping was admissible, and was continued until the organ had regained its usual size.

Case II.—*Rheumatic orchitis.*—Patient, a carpenter; æt. 24. Denied having had venereal disease of any description, and stated that he contracted his present trouble by sitting upon a cold stone step for some time, he having on thin pantaloons. The pain was especially severe, and was accompanied by considerable nausea and fever. There was also some tenderness and swelling of the ankle joints. The body of the testis was swollen and tender; the epididymis somewhat enlarged, with slight effusion into the tunica vaginalis. He was given a saline cathartic and put upon tr. pulsatillæ m. v. every hour. In twenty-four hours the pain which had been so severe, that I had thought seriously of subcutaneous incision of the testis, had considerably abated, and on the third day had disappeared, leaving, however, some tenderness and no appreciable change in the swelling. Hot fomentations and poultices were now ordered and continuously applied, until the induration had disappeared.

Case III.—Epididymitis from passage of sounds for relief of stricture and gleet, of long standing. Patient, engineer; had had gleet for over a year, and had previously had a number of attacks of gonorrhœa. On the day following a somewhat prolonged instrumentation of the urethra, pain and great tenderness of the left testicle developed. The same treatment was adopted as in the preceding case, with, however, in addition, x minims of fl. ex. jaborandi every hour, he having considerable fever and complaining greatly of thirst. On the third day pain had entirely ceased and poultices were ordered.

Case IV.—*Gonorrhœal epididymitis.*—History of previous attack in same testicle, which laid the patient up for four weeks. The same line of treatment was adopted as in previous cases, and

with marked success—the pain ceasing in twenty-four hours, and the gentleman being at his work again on the eighth day, the testicle, however, being strapped to produce resolution of the swelling and support the organ, thus preventing a relapse and enabling the patient to attend to his business, which compelled him to be upon his feet a great deal of the time.

Case V.—Somewhat similar to preceding case. Swelling and intense pain of neuralgic character in both the inflamed and sound organs, this pain having severe exacerbations shooting along spermatic cord and down the inner aspect of thighs. There was also considerable pain in the back. Fifteen minims of the tr. pulsatillæ were given every second hour, with the usual preliminary cathartic. In forty-eight hours the pain was markedly diminished, there being, however, some increase of the swelling. The remedy was stopped on the third day and poultices applied. There was a slight recurrence of the pain on the fifth day, which was again readily controlled, in a few hours, by the pulsatilla.

From observation of the action of pulsatilla upon the above cases and others, which, though carefully noted as to the effects of the remedy, were not recorded, I have been led to the conclusion that it is of great value. The drug has long borne the opprobrium of being a homœopathic preparation, and has been highly recommended by the small-pill fraternity; they, however, have administered it only in infinitesimal doses, in which it is obviously impossible to obtain its physiological effects, so that it would be practicable to determine whether their so-called beneficial results were due to their small doses of the drug or were really the natural course of the affection, they never having applied rational measures of treatment, and being consequently devoid of data for comparison. They do not give any explanation of its action, but speak in a vague manner of its specific effect upon the mucous membranes, the female generative organs and the cerebro-spinal axis. It is probable that its effects are manifested principally through its influence upon the nervous system. It seems to have a specific action upon the testis itself, as evidenced by the speedy relief of pain and tenderness, although it has no effect upon the induration of the inflamed organ, and does not appreciably diminish the serous effusion attendant upon

such cases. The beneficial effects of the drug in gonorrhœal epididymitis may possibly be due in some measure to its action upon the inflamed urethral tract, which constitutes the source of most of the cases of that disease.

I can not reconcile my observations to those of Dr. Piffard, who in some of his earlier investigations of the subject found that five minim doses of tr. pulsatillæ aggravated epididymitis, while the same drug, in doses of one-tenth of a minim every three hours, rapidly cured the disease. The doctor evidently has great faith in infinitesimals.

I am not aware to what extent regular practitioners have investigated the action of pulsatilla, nor to what extent it has been written upon, but I trust that it may receive a fair trial, and if it be found to be as valuable as I have been led to believe it, that it may enter more extensively into the pharmacopœias of legitimate physicians, thus rescuing a useful drug from the obscurity of homœopathic practice.

137 EAST MADISON ST., CHICAGO.

ARTICLE V.

PRACTICE AT THE COUNTY INFIRMARY. BY A. W. HAGENBACH, M.D., Assistant Superintendent Cook County Insane Asylum and Infirmary.

The Cook County Infirmary, with an average daily population of seven hundred inmates, with hospital accommodations for 110 patients (sixty males and fifty females) is located ten miles northwest of the center of the City of Chicago, and accommodates all the sick pauper patients not cared for in any of the other charitable institutions of Cook County. The accompanying tables will show the total number of cases treated in "Male Hospital Department" of Infirmary during the year 1881. In looking over the tables certain peculiarities present themselves which need some explanation. In the tables of "Medical Cases," two cases are entered as "anasarca, general;" as anasarca is not a disease *per se* but merely a symptom, it would seem necessary to state

why they were entered as such in the tables. In both instances the patients, when admitted, presented no other prominent symptoms; neither of them were suffering with kidney or heart disease. The anasarca was regarded as a result of some previous disease, character unknown, which had left the blood alternated, so as to give rise to the dropsical effusion. The cases were accordingly entered as general anasarca, when admitted to the hospital, and so appear in the tables.

The second item calling for explanation is the large number of cases entered as "debility, general." By glancing over the tables of ages, it will be seen that 245 or over 50 per cent. of the total number of cases treated were over fifty years of age, while seventy-nine were over seventy years of age. A majority of the very old patients were admitted to hospital on account of general debility, they being too feeble to live in the other departments where they would have been compelled to leave their rooms to eat in a common dining-room. The ten cases of "Variola" developed in patients sent to hospital previous to the appearance of the eruption.

Another item needing an explanation is the large number of cases of angina pectoris, as compared with valvular lesions of the heart, there being six of the former and five of the latter. It must be remembered that the tables include all the cases treated during the year, each readmission being counted as a new case. Two patients with angina pectoris were each twice readmitted to hospital during the year, while patients with valvular lesions of heart, unless in an advanced stage, are rarely admitted to hospital at all. The large percentage of cases of "Phthisis Pulmonalis" is accounted for by the fact that but a limited number of these patients are admitted to the Cook County Hospital, the only charitable public hospital in Chicago. The frequency of diarrhœa among the inmates is due to previous abuse of the digestive organs, as well as the infirmary diet which, while containing all the proximate principles in sufficient quantities to keep up nutrition, does not present that variety which is conducive to perfect digestion and assimilation. The treatment generally followed in such cases is the administration of a cathartic, to remove all irritating matter from the intestines; castor oil generally answers

better than any other cathartic, as it acts purely as an evacuant, and is non-irritating. The oil is generally followed by slightly astringent preparations and a more liberal diet. This simple treatment generally effects a speedy cure. In certain cases characterized by a want of intestinal tonicity, the following preparation has been used with marked success:

℞ Olei terebinth .... ℥ ij.
Tinct. opii..... ..... ℥ iii.
Syr. krameriæ .... ℥ ij.
Aquæ puræ ad..... ℥ iv.
M. Emulsify.
Sig.—Teaspoonful every 3 or 4 hours.

I have also found this mixture, very useful in certain cases of diarrhœa, among the chronic insane. The promiscuous use of astringents is useless, and capable of doing harm by irritating the mucous lining of stomach and intestines.

The only items in tables of "Surgical Cases" calling for special notice are the large number of cases of fractures, and the case of "Strangulated Inguinal Hernia." The fractures of femur, of neck of femur, ribs, and of tibia and fibula, were admitted immediately after the accidents by which they were caused, and were treated here throughout; the remaining cases were transferred from Cook County Hospital with dressings applied. The patient with strangulated inguinal hernia was admitted to hospital department for the second time. The hernia could not be reduced either time, even after the patient was completely anæsthetized. As there were no alarming symptoms present, he was placed in bed, and ice bags applied continuously over tumor for twelve hours, when it was reduced without difficulty. The tables of "The Cause of Death" call for no special explanations.

Nativity of Patients treated in Cook County Infirmary—Male Department—during the year 1881.‡

United States, white	75	Germany	111
" " black	14	Holland	1
	89	Ireland	148
Batavia	1	Norway	20
Belgium	1	Russia	2
Bohemia	13	Scotland	7
Canada	10	Sweden	22
Denmark	7	Switzerland	2
England	25		
France	3	Total	462

Ages of Patients treated in Cook County Infirmary—Male Department—dur-the year 1881.

From 12 years to 20 years	4	From 60 years to 65 years	32
" 20 " 25 "	19	" 65 " 70 "	43
" 25 " 30 "	26	" 70 " 75 "	27
" 30 " 35 "	39	" 75 " 80 "	26
" 35 " 40 "	40	" 80 " 85 "	20
" 40 " 45 "	50	" 85 " 90 "	5
" 45 " 50 "	39	" 90 " 95 "	1
" 50 " 55 "	39		
" 55 " 60 "	52	Total	462

Statement of Medical Cases treated in Cook County Infirmary—Male Department—during the year 1881.

General.		*Nervous System.*	
Ague, tertian	6	Apoplexy, cerebral	1
Alcoholism	2	Ataxia, locomotor	3
‡Anasarca, general	2	Catalepsy	1
Anemia	5	Dementia	6
‡Debility, general	55	Epilepsy	3
Fever, remittent	1	Hemiplegia, right	13
" scarlet	1	" left	12
" typhoid	1	Mania, acute	2
Lumbago	1	Myelitis	1
Opium habit	1	Paralysis	2
Pleurodynia	2	" agitans	3
Pyemia	1	" arm	2
Rheumatism, chronic	8	" both extremities	1
" articular acute	4	Paraplegia	3
" syphilitic	6		53
‡Variola	10	*Heart.*	
	106	‡Heart, valvular lesions of	5
*Malingerer	3	Angina pectoris	6
	109		11
Lungs.		*Intestinal Tract, &c.*	
Asthma	11	Cirrhosis, liver	4
Bronchitis	32	Coeliagra	1
Emphysema	1	‡Diarrhœa	23
‡Phthisis pulmonalis	49	Dysentery	1
Pleuritis	4	Gastro-enteritis	4
Pleuro-pneumonitis	2	Tabes Mesenterica	1
Pneumonitis	7		34
	106	*Kidneys.*	
		Bright's disease	3
		Total	316

Statement of Surgical Cases treated in Cook County Infirmary—Male Department—during the year 1881.

Abscess.		
Abscess, leg from erysipelas	3	
" " " injury	2	
" Axilla	1	
* " Mastoid cells	1	
Carbuncle over Mastoid process	1	
		9
Affections of Bones and Appendages.		
Caries, elbow joint	1	
Exostosis, tarsal bones	1	
‡ Fracture, femur	1	
" " neck of	1	
" humerus	2	
" patella	2	
" "Potts"	2	
" ribs	2	
" scapula	1	
" tibia and fibula	2	
" ulna	1	
Hip joint, disease	1	
Knee, dislocation	1	
Necrosis, femur	1	
*Osteo sarcoma, femur	1	
Paronychia	1	
Spinal curvature	2	
Sprain, ankle	1	
Tarsus, crushed	2	
		26
Affections of Integument.		
*Combustio, dermatitis	1	
Erysipelas, traumatic	9	
Frost bite	5	
Scrotum, gangrene of	1	
Stumps, ulcerated	4	
*Ulcers, indolent	17	
" inflamed	1	
" syphilitic	1	
" varicose	11	
		50
Specific.		
Cancer, rectum, scirrhus	1	
" neck, encephaloid	2	
" pylorus, scirrhus	2	
Syphilis, primary	9	
" secondary	7	
* " tertiary	2	
Gonorrhœa	4	
		27
Not Classified.		
Cataract, senile	4	
Conjunctivitis	4	
Contusions	9	
Hernia, double inguinal	2	
‡ " inguinal strangulated	1	
Hydrocele	2	
Prolapsus, rectum	2	
Stricture, urethra	2	
Synovitis	6	
Trichiasis	2	
		34
Total		146

Nativity of Patients who died in Cook County Infirmary—Male Department—during the year 1881.

United States, white	18	Germany	30
" " black	2	Ireland	31
	20	Norway	2
Belgium	1	Sweden	7
Bohemia	6	Switzerland	2
Canada	4	Scotland	2
Denmark	1		
England	3	Total	111
France	2		

Ages of Patients who died in Cook County Infirmary—Male Department—during the year 1881. ‡

From 15 years to 20 years	1	From 55 years to 60 years	11
" 20 " 25 "	3	" 60 " 65 "	9
" 25 " 30 "	4	" 65 " 70 "	16
" 30 " 35 "	12	" 70 " 75 "	9
" 35 " 40 "	6	" 75 " 80 "	7
" 40 " 45 "	7	" 80 " 85 "	5
" 45 " 50 "	10	" 85 " 90 "	1
" 50 " 55 "	9	" 90 "	1
		Total	111

Cause of death of Patients in Cook County Infirmary—Male Department—during the year 1881.

Immediate Cause.	*Complications.*		
Alcoholism		1	
"	Dysentery	1	
			2
Apoplexy, cerebral	Hemiplegia, right side	1	
" "	Old age	1	
" "	Hemiplegia	1	
			3
Asthma	Chronic bronchitis		5
Bronchitis		3	
"	Acute tonsilitis	1	
"	Old age	2	
			6
Bright's disease	Valvular lesions of heart		1
Cancer, pylorus, scirrhus		2	
" neck, encephaloid		1	
			3
Cirrhosis, liver	Icterus, peritoneal dropsy	1	
" "	Peritoneal dropsy	3	
			4
Combustio, dermatitis			12
Debility, general	Dementia	2	
" "	Hemiplegia	3	
" "	" right side	1	
" "	" left "	1	
" "	Old age	9	
" "	Suppurating buboes	1	
" "	Ulcers, both legs	1	
" "	Paralysis, both extremities	1	
			19
Dementia	Hemiplegia, right side	1	
"	Old age	1	
"	Hemiplegia	1	
			3
Diarrhœa		5	
"	Cystitis, chronic	1	
"	Dementia	2	
"	Hemiplegia	1	
"	Melancholia	1	
"	Old age	4	
"	Paralysis both extremities, partial	1	
"	Ulcers, legs	1	
"	Hemiplegia, right side	1	
			17
Fever, scarlet, malignant			1
" typhoid			1
Gastro-enteritis			1
Hemorrhage, pulmonary	Phthisis pulmonalis		1
Heart, aortic and mitral lesions	Enlargement by dilatation		1
Inanition	Bronchitis		1
Mania, acute	Ulcerated stump		1
Myelitis	Paraplegia and bed sores		1
Osteo Sarcoma			1
Paralysis Agitans			1
Phthisis pulmonalis		15	
" "	Anemia	1	
" "	Bronchitis	1	
" "	General anasarca	1	
" "	Diarrhœa	2	
" "	Angina pectoris	1	
" "	Hypertrophy of heart	1	
" "	Pleuritis circumscribed	1	
" "	Syphilis, secondary	1	
			24
Pleuritis circumscribed	Phthisis pulmonalis		1
Pleuro pneumonitis, left side			1
Pneumonitis, left lower lobe		1	
"	Hydro-thorax	1	
"	Phthisis pulmonalis	2	
"	Bronchitis	1	
			5
Pyemia from erysipelas		1	
" " abscess of mastoid cells		1	
			2
Rheumatism, chronic	Bronchitis		1
Suicide by hanging			1
Syphilis, secondary			1
Tabes Mesenterica			1
	Total		111

Recapitulation of Causes of Death.

Immediate Cause.		*Complications.*	
Alcoholism	2	Anæmia	1
Apoplexy	3	Bronchitis	9
Asthma	5	Cystitis	1
Bronchitis	6	Bed sores	1
Bright's disease	1	Diarrhœa	2
Cancer	3	Dropsy	4
Cirrhosis	4	Dysentery	1
Combustio dermatitis	1	Dementia	4
Debility	19	Heart lesions	4
Dementia	3	Icterus	1
Diarrhœa	17	Melancholia	1
Fever, scarlet	1	Old age	17
Fever, typhoid	1	Paralysis	13
Gastro enteritis	1	Phthisis pulmonalis	4
Hemorrhage, pulmonary, immediate	1	Tonsilitis	1
Heart, lesions of	1	Syphilis	2
Inanition	1	Ulcers	3
Mania, acute	1	Hydro-thorax	1
Myelitis	1	Pleuritis	1
Osteo sarcoma	1	Not specified	40
Paralysis agitans	1		
Phthisis pulmonalis	24	Total	111
Pleuritis	1		
Pleuro pneumonitis	1		
Pneumonitis	5		
Pyemia	2		
Rheumatism	1		
Suicide	1		
Syphilis	1		
Tabes Mesenterica	1		
Total	111		

* Cases reported in this article.

† I would acknowledge the valuable assistance rendered by Mr. T. Sydney, in preparing the tables.

‡ See explanations of tables.

Malingerers.—Malingerers are frequently met with in the infirmaries of large cities, among a class of shiftless men who, after spending all their earnings during the summer, will resort to any disreputable means to gain admission to some charitable institution during the winter months. Physicians who have had experience in dealing with paupers generally recognize such customers at a glance, but even they are sometimes deceived.

Case.—Only a few months ago, an apparently healthy man presented himself at the dispensary department, asking for an excuse from work on account of paralysis, which he claimed affected his right arm. His general appearance, and the position of the member, which was held closely to the side, led me to suspect him of being an impostor. Upon trying to elevate the arm, I found the muscular resistance so great that I experienced some difficulty in raising it to a horizontal position. When released, it descended with considerable force to its original position. Asking an attendant to hold the arm in a raised position, I directed the patient's attention to an eruption on his face, at the same time giving the nurse a nod to release the arm, which remained stationary for several moments after the support was gone, when he suddenly jerked the arm downward with great force, to the amusement of several inmates who were present during the examination. It is perhaps needless to state that after being detected he at once went to work, and never afterward attempted to "sham Abraham." The ignorance of symptomatology displayed by this patient is characteristic of the usual pauper malingerer, and the chief element that leads to immediate detection. An exaggeration of symptoms is almost daily encountered among the older inmates, who know that sickness will assure an excuse from work, as well as special diet. While malingerers generally are readily detected, some will mislead the most experienced. A remarkable case came under my observation in 1877, in the female hospital department of the infirmary.

Case.—Maria B., æt. about fifty, complaining of severe pain in head and back, also of loss of power in extremities, remained in bed for several years, the dread of the nurses, and the pest of the attending physicians. She became so exacting in her demands that Dr. J. Lawless, the assistant superintendent, had her removed

to an adjoining building where she could be more isolated, and would necessarily receive less attention than in the hospital department. Judge of our surprise when, on the following morning, her bed was empty, and Maria was nowhere to be found, as she had left during the night. It might be claimed that a proper diagnosis should have been made of the case long before; but to show that the physicians at the infirmary were not the only ones deceived by her, it might be well to state that several months later, while passing through the wards of the Cook County Hospital, Dr. Lawless found her snugly in bed, as troublesome as ever. On informing the physicians of his experience with her at the infirmary, she was at once dismissed. A few days later she was seen on the railroad, walking toward Milwaukee, where I have no doubt she succeeded with her impositions, as nothing has been heard of her since. Of the three cases recorded in the tables, but one needs special notice.

Case.—T. T.,* æt. forty-two, admitted October 20, 1881.

Ever since discharged from hospital department, where he had received special attention, he tried to gain a readmission, claiming that since dismissed he was subject to fits. His continued effort to gain readmission, as well as the contradictory character of his story as told at different times, led us to suspect that the fits were feigned. He was sent to hospital, the nurse receiving instructions carefully to notice his general deportment. I was called to see the case by Dr. A. Baldwin, house physician, a few days after his admission, while suffering (?) from a very severe attack. I found him lying in bed, foaming at the mouth, kicking and twisting himself into innumerable shapes. The muscular contractions were limited almost entirely to the right side. Owing to the violent exertions, he was bathed in perspiration. Pulse 80. Pupils normal in size, and responding readily to light. To confirm our suspicions concerning the nature of the fits, the administration of chloroform was discussed in the presence of the patient. A small quantity of chloroform poured on a towel was held over his mouth and nose. The fits immediately grew milder, and ceased suddenly after three or four inspir-

* This is the same patient who had previously been treated in hospital, suffering with perineal abscess and gangrene of scrotum.

ations, and have not since returned, the patient working steadily in the hospital kitchen. The treatment followed in such cases is very simple and effective. The malingerer is at once dismissed or set to work.

Osteo Sarcoma.—Case. J. F., æt. seventeen, admitted May 26, 1881. Previous history unknown, as the patient was unable to give any account of himself, or even the address of his friends. He was emaciated, and acted as if in great pain, crying out whenever touched. He would frequently moan for hours; then suddenly cry out, as if in great agony. He spoke of the pain as "shooting through the leg." His entire left thigh was enormously enlarged from knee to hip joint, measuring at the thickest part 31⅝ inches in circumference. Circumference of body on a line with umbilicus 27½ inches. The integument of thigh was of a light stone color, and greatly stretched, so that the sweat pores were widely separated. The superficial fascia was ruptured in several places similar to what is seen beneath the abdominal integument toward the close of pregnancy. The thigh was hard to the touch, excepting a few small spots which were quite soft, giving to the finger the sensation of some deep seated semi-fluid substance. The superficial veins of thigh were enormously enlarged and tortuous, as were also the superficial epigastric, and superficial circumflex iliac veins on lower portion of abdomen on the side corresponding with the tumor. No ulcerations had taken place, the integument being intact throughout. The surface of the tumor presented numerous elevations and depressions, giving it a somewhat lobulated appearance. The leg was greatly atrophied, the contrast between it and the thigh was so marked, that it was almost impossible to conceive of the former as ever having supported the latter. So great was the weight of the enlarged thigh that he was utterly unable to raise it from the bed, and only with great difficulty was he able to change its position slightly. His bowels were loose throughout. He failed rapidly and died of exhaustion June 3, 1881. The only treatment adopted was the administration of morphine to relieve pain, large doses affording but slight relief. Good diet and cleanliness were prescribed throughout. At a post-mortem held twenty hours after death the general appearance of the thigh was the same as already

described. An incision was carried along the anterior median line of the thigh dividing the integument and superficial fascia, exposing the muscles spread out very thin, and so pale that I at first mistook them for the deeper fascia. Immediately beneath the muscular layer a dense white membrane was found, enveloping the entire growth. This membrane was nearly a line in thickness and very dense, giving a sensation to the hand in dividing similar to that experienced in cutting cartilage. Beneath this membrane the entire tumor was found distended with a granular lardaceous matter, and a small quantity of liquid resembling glycerine in color and consistency. The tumor was divided into innumerable cells or spaces by a thin shining membrane, in certain portions of which small deposits of osseous matter were found. The spaces were of all sizes, containing from several drachms to a quart or more of the lardaceous matter. When the bone was exposed it was discovered that the entire thickness of the shaft of the femur was honey-combed, the compact tissue in some places had been completely destroyed by an ulcerative process, the cells of the cancellous tissues were enlarged.*

Combustio, Dermatitis.—Case. H. C., cook; while pouring kerosene out of a can containing nearly a gallon of the oil on some ignited wood in a cook-stove, the kerosene in the can caught fire, caused an explosion to take place, throwing the burning contents all over him, burning him severely about the face, upper and lower extremities, and a portion of the trunk, involving fully one half of entire surface of the integument in the burn. Several pieces of integument were unavoidably detached in removing the clothing to which it had become adherent in places. Severe nervous shock was the chief symptom following the accident. The extremities were cold. Pulse small and compressible. Temperature 97½ F. Lime-water and linseed-oil dressings were applied continuously and stimulants freely administered. A few hours after the accident he commenced to complain of pain in epigastric region, followed by vomiting. The stomach became very irritable, at first rejecting liquid food administered, and several hours later would not retain a single drachm of water.

*For a very interesting case tending to show hereditary nature of osteo sarcoma, see "Gibbon's Surgery," Vol. I.

He died 92 hours after the accident. A post-mortem was held 16 hours after death and the following pathological conditions were noted. Severe congestion of all the internal organs examined, especially the stomach and intestines. Several small ulcers were found in duodenum, two were quite deep, involving the muscular coat. I have no doubt had the patient lived several days longer, they might have caused complete perforation. The case illustrates the acute character of the duodenal ulcerations, which 92 hours after the accident had already destroyed the mucous and involved the muscular coat of the intestines. From the appearance of the deeper ulcers we were led to believe them of at least 48 hours duration previous to death. If correct in this estimation the ulcerative process was established inside of two days after the accident. I have been unable to find any satisfactory explanation of the cause of the ulcerations, notwithstanding the theory of the arrest of the exhalent functions of the injured integuments, etc.

Abscess of Mastoid Cells and Pyæmia.—Case. H. S., aged 40, was admitted to hospital department February 12, 1881, on account of "general ill health." Several weeks after admission he commenced to complain of pain in left ear, followed in a few days by a free discharge of pus. Thorough cleansing with warm water and the use of a slightly astringent solution was followed by marked improvement, the pain and discharge disappearing almost entirely. Several weeks later the pain returned, also severe pain in mastoid region was complained of. Hot fomentations were applied back of the ear for several days without affording relief from pain. Several ounces of blood were removed by making free incisions over mastoid process, affording partial relief, but as the pain soon returned with increased severity, and suspecting the presence of pus in the mastoid cells I concluded to afford it a free outlet. Several holes were drilled into the mastoid cells with an ordinary bone-drill and a button of bone removed, afterward breaking down the bony septa between the cells. The entire cavity was found filled with ichorous pus, which was removed, and the cavity washed out with a five per cent. solution of carbolic acid. The operation afforded almost instant relief from pain. The general health of the patient, however, became

more and more impaired, and he experienced several severe chills the day following the operation. Mucous râles were also found present in both lungs. Large pus cavities formed in both hands, right axilla, right forearm, and later upon back; when opened they discharged large quantities of poorly conditioned, offensive pus. His appetite completely disappeared. Temperature ranged from 101° to 104° F. He lingered for ten days in a miserable condition and died of "exhaustion accompanying pyæmia" April 4, 1881. Ferruginous and vegetable tonics, good diet and stimulants were freely used.

Tertiary Syphilis.—The rules governing the admission of patients to the charitable institutions supported by this county prohibit the admission of patients suffering with primary syphilis. The occasional exceptions made to the rules will account for the nine cases recorded in the tables. The City of Chicago has made no provisions whatever for this unfortunate class of patients, and if all were admitted to the infirmary, the hospital department would accommodate no other patients. As the unfortunate pauper suffering from syphilis has no means of procuring treatment during the primary stage of the disease, cases are not unfrequently admitted with secondary, or even tertiary symptoms who have received no previous treatment. One of the worst cases of tertiary syphilis ever admitted was discharged during the present year, relieved.

Case.—W. P., sailor, aged 45, was admitted January 12, 1879. He had contracted syphilis about two and a half years previous to his admission. For reasons already stated he was unable to gain admission to any of the charitable institutions supported by this county, until he presented such a loathsome appearance, that to rid the city of his presence, he was finally sent to the infirmary. When admitted, he was covered with ulcers, varying in size from that of a split-pea, to several inches in diameter. Numerous patches of pustules were also found, beneath which destructive ulceration was going on. One very deep ulcer was located immediately over the sternum, exposing fully an inch of the gladiolus to view. Both feet (especially the right), were masses of dried pus, scabs and ulcers, bearing but slight resemblance to a human member. One of the attendants, when he saw the

patient for the first time, was so struck by his appearance, that he named him "skinny," an appellation that hung to him until discharged. The great destruction of integument should have suggested skinless as a more expressive term. The treatment, at first, consisted in the application of hot fomentations wherever the pustules had not broken down so as to expose the ulcers beneath. Hot fomentations were also used to soften all hardened accumulations. When all the ulcers were exposed to view, it was found that they involved fully a third of the entire surface of integument. A dressing of simple cerate was applied to ulcers and the following mixture prescribed:

℞ Hydrarg chl. coros. .. gr. iss.
Potas. iod..... ..... ℥ ij.
Syr. sars. comp..... ℥ iii.
Aquæ Pura ad..... ... ℥ viii.

Sig. Tablespoonful three times a day.

This treatment was followed for several months without any apparent improvement. The general health of the patient commencing to fail, iron, and later, cod-liver oil were prescribed. Various other preparations of mercury were at times substituted for the hydarg. chlor. corrosivum, in the above mixture. The improvement was very slow, when in August, 1880, I determined to use medicated steam baths in connection with internal medication. Iodine, sulphur, and carbolic-acid baths were alternately administered. After a few baths a marked improvement was noticed in the appearance of the ulcers; which were completely healed at the end of four months. His protracted confinement in bed had caused muscular rigidity of flexor muscles of both thighs to take place, so that the leg could not be fully extended. With returning health and exercise this complication gradually disappeared, he being able to walk with the aid of an ordinary walking-stick when discharged from the hospital, July 30, 1881. The surface of the integument not involved by the ulcers presented a pale, harsh appearance, and a large quantity of epithelial scales were removed every day. The general health of the patient at times was greatly impaired, when specific remedies were discontinued for short periods. With the exception of these intervals, perhaps three months in all, he was under "mixed," iodine and mercury, treatment until discharged. This case is reported to illustrate

what persistent treatment will accomplish even in the most aggravated cases of tertiary syphilis, with especial reference to the efficacy of medicated steam baths, which I have found very useful in a number of cases where internal remedies had proven of but little value.

Carbolic Acid Poisoning.—Case. *Mrs. D., German, aged 35, for several years an inmate of the Cook County Hospital, for insane suffering from "chronic mania;" on October 19, 1881, succeeded in gaining access to a bottle of full strength carbolic acid, of which she swallowed a quantity, estimated at from one to two ounces. The female attendant on the ward, who saw her almost immediately afterward, said the patient "appeared as usual" and informed her that she had taken a dose of "medicine." While leading the patient to her room she suddenly became "drawn together," her hands clenched and strongly flexed upon forearms. Medical aid was at once summoned. Dr. H. Gray, who attended the call within ten minutes of the accident, found her unconscious, lids partially closed, lips and tongue white, face of a dark hue, and marked venous congestion. The odor of carbolic acid was very apparent the moment he approached the patient. About a pint of olive oil was injected into stomach, removed in a few minutes and a second pint of oil injected, the patient expiring a few moments later. The breathing at first was sighing, later stertorous. Temperature and pulse not noted. At a post-mortem held twenty hours after death, the odor of carbolic acid was still quite noticable about the mouth of the corpse. Lower half of entire body of a uniform red, a lighter hue than usually observed in post-mortem statis. The tongue and roof of mouth showed evidence of the action of some corrosive substance. The mouth and tongue were white, excepting where the mucous membrane had been detached so as to expose the deeper tissues, which were red and congested. No other abnormal appearances were detected by external examination. The contents of the thorax and abdomen were next examined. The stomach was found distended with air and the oil injected previous to death, and of a deep red color in patches on its external surface. The entire intestines were

*This patient was not an inmate of the Infirmary proper, but of Insane Hospital adjoining and under the same medical management.

congested, the smallest vein, when cut into, was followed by the escape of liquid blood of a brighter red than ordinary venous blood. The stomach, and ten inches of the duodenum were removed and laid open for further examination, when the mucous membrane on posterior surface of stomach, near the great cul de sac, was found hardened and of a dark brown color. This I regarded as the spot where the concentrated acid first came in contact with the mucous lining of the stomach, the hardening being due to the coagulation of the albumen of the membrane. Over the remainder of the stomach the mucous membrane was almost completely destroyed, so as to expose the muscular coat smooth and shining beneath. This destruction of the mucous membrane I do not regard as due to post-mortem digestion,* as the gastric juice must have been changed by the acid, and there was no possible mistaking the direct action of some corrosive substance. So powerful was the action of the acid that several arterioles had ruptured, and the expelled blood upon coming in contact with the acid had coagulated. The portion of the duodenum removed was highly congested, and of a uniform red color. The œsophagus, when spread out, presented a striped appearance, alternate red and pale lines extending its entire length. This appearance was regarded as due to the arrangement of the mucous membrane in longitudinal folds. Two blue spots about the size of a small bean were noticed beneath the mucous membrane, immediately above the œsophageal opening in diaphragm; when cut into they were found to contain dark coagula. As these spots contained the only coagulated blood found in entire body, I regarded them as due to some injury to the œsophagus, previous to death, possibly the arrest for a time of some foreign body accidentally swallowed.† The liver and lungs were distended with liquid blood. The heart was completely empty, and a small deposit of tubercle was detected in the apex of left lung.

Perineal Abscess and Gangrene of Scrotum.—Illustrating the rapidity with which extensive destruction of scrotal tissues are repaired.

*The digestion of the walls of the stomach that sometimes takes place after sudden deaths in vigorous subjects.

†Foreign bodies are quite frequently arrested in œsophagi of the insane. See my article on "Surgery among the Insane," also "Foreign Bodies in Surgery."—*Poulet.*

Case.—* T. T., aged 42, suffering for may years with facial neuralgia, presented himself at the out-department of the Cook County Poor House, Oct. 4, 1880, complaining of severe pain in scrotum and testes. Upon examination, found perineum hard and swollen, with erysipelas involving the entire scrotum. He was transferred to the hospital department, and hot water dressings were ordered to be applied continuously.

Oct. 5th. Scrotum swollen to twice its size, and erysipelas extending over lower part of abdomen. The penis is greatly distended, with effusion under integument. Hot water dressings continued, and the following preparation prescribed:

℞ Quiniæ Sulphatis.....ʒj
Tinct. Ferri Chloridi.....ʒij
Syr Tolutani.....ℨj
Aquæ Puræ aa. ..... M

Sig.—Teaspoonful 3 times a day.
Opium in sufficient quantities to relieve pain.

Oct. 6th. The erysipelas extending higher over abdomen. Scrotum enlarged to the size of the fœtal head. The swelling of perineum enlarging and very painful. No fluctuation can be detected.

Oct. 7th. The case was seen to-day, by Drs. Wilde, Cohen, Bessler and Thiely, of Chicago, who advised a continuation of the treatment adopted, and expressed an unfavorable prognosis, as all the symptoms present pointed to extensive destruction of scrotal tissue and death from exhaustion, or septicæmia. Opening the perineal abscess, as soon as the pus approached the surface, was recommended.

Oct. 8th. About 5 o'clock this A.M. the abscess opened spontaneously near the center of the perineum, discharging a large quantity of poorly-conditioned, offensive pus.

Oct. 10th. Circulation in anterior surface of scrotum entirely arrested. Urine escaping through opening in perineum, an elastic catheter was passed into the bladder without difficulty.

Oct. 14th. Line of demarkation commencing to form, the mortification involving greater part of anterior surface and base of scrotum. Carbolized linseed poultices were now applied instead

* This case was reported by me in an article on "Surgery among the Insane." Read before the West Chicago Medical Society, and published in the *Journal of Nervous and Mental Disease*, Vol. viii. No. 1. January, 1881.

of hot-water dressings; the slough at once commenced to separate, and was completely removed by the 19th, when nearly half of the scrotal tissue was gone, both testicles being plainly exposed to view, the left protruding partially through the opening. After pressing the testicle upward, applied strips of adhesive plaster, bringing together the opposite sides of the wound, and affording support to the testicles.

Oct. 24th. Adhesive straps have been applied daily since the 19th; opening about one-half former size. Opening in perineum almost closed. Patient can retain urine for several hours, and but little escapes through opening in perineum.

Oct. 30th. Healing very rapidly, the opposite side of the wound remaining in contact without strapping; testicles in normal position.

Nov. 15th. Wound healed, and patient discharged cured in less than a month after the destruction of nearly half of the scrotal tissue.

Ulcers.—Of all the surgical cases admitted to this institution, these are by far the most numerous. The city hospitals being crowded with patients, suffering from more acute affections, rarely admit more of these cases than are required for clinical purposes; hence, the large percentage treated at the infirmary. Thirty cases of ulcers of inferior extremities are recorded in the tables, but this number does not include one-half of the cases actually treated, as only those it is impossible to care for in other apartments are ever transferred to the hospital. Some of the ulcers are very large, extending in some instances from the ankle almost to the knee, and involving nearly entire circumference of leg. The treatment usually pursued is: 1st. To place the patient in recumbent position; 2d. The application of hot fomentations until parts are thoroughly cleansed; 3d. A thorough application of caustic, to stimulate parts to healthy action; 4th. The use of strips of adhesive plaster to support edges of ulcer. Ointment or salves are very rarely used. Skin grafting is resorted to in suitable cases, after the granulations present a healthy appearance. I have found the greatest success in grafting, by applying the bits of integument immediately upon the granulations, without much, if any, scarification of the surface of the ulcer. I suc-

ceeded a few weeks ago in growing six out of nine pieces, grafted in this manner on a patient who had undergone several previous unsuccessful operations, two of which were performed by a Chicago surgeon of note. The patient had but little faith in the way I performed the operation, and informed me that it was "very difficult to make them take" on him, as Dr. —— had tried it upon two occasions, each time scarifying the granulations until the blood trickled down the leg, and still they refused to grow. The deep incisions causing a free escape of blood, glazing entire surface of ulcer, I regard as the chief, if not sole reason of the failure of previous operations. Attention must also be paid to the general health of patients with every variety of ulcers.

Varicose Ulcers.—So far as the ulcers are concerned, the same general treatment is followed as in the indolent variety, with the additional application of a roller, or rubber bandage, to compress the enlarged veins. It was formerly my custom to ligate the veins in a large percentage of the cases that came under my care, affording permanent relief in several cases. I have had but one case in which the operation was accompanied, or followed by any alarming symptoms.

Case.—J. R., aged 42, was transferred from the Cook County Hospital, where he had undergone two previous operations; six pins had been inserted each time. When admitted he desired to have the treatment continued, claiming to have derived great relief from the previous operations. As quite a number of varicose veins still remained on both legs, I inserted five pins under the most prominent of the veins, crossed them with twisted silk suture, and allowed them to remain until they had ulcerated completely through the inclosed tissues. He was then allowed several weeks to recuperate, when five pins more were inserted and crossed with twisted suture as before. Two of the pins had already ulcerated completely through, when the patient commenced to complain of pain in the head and jaws, followed by thickness of speech and difficulty in swallowing, especially fluids. The two remaining pins were removed, and linseed poultices applied over both legs. He suffered intense pain, and rapidly grew worse, the jaw became firmly locked, and later the muscles of neck and back became involved in the spasm. The slightest cutaneous irritation was

followed by severe tetanic contractions. Growing rapidly worse, he died forty-eight hours after the appearance of alarming symptoms. The treatment consisted in the administration of chloral hydrate and opium, with chloroform inhalations, for several hours previous to death, to control the violent spasms. An enema of tobacco was also administered, and followed by a free discharge from the bowels. I was inclined to ascribe the exciting cause of the tetanus to nervous irritation, caused by including a nerve of considerable size in some one of the last five ligatures.

COMMUNICATION OF SYPHILIS BY SKIN-GRAFTING. — Dr. Deubel communicated the following case to the Société Médical des Hopitaux: A man, aged forty-nine, who had never contracted venereal disease, became, in January, 1881, the subject of gangrenous erysipelas of the thigh, which was attended with a large ulceration, having its starting point in the superficial ulceration of some hemorrhoids, that, except at some isolated points, refused to cicatrize. On March 7, forty-five dermo-epidermic grafts, furnished by five persons, were inserted, and thirty-three of these contracted adhesions; and twenty other grafts taken from seven persons, aged from twenty to forty years, were placed on another part of the wound on the 23d, thirty of the number retaining their vitality. Grafts from the mucous membrane of the mouth of a rabbit were also employed, and on March 23 forty new grafts, taken from persons aged from twelve to fifty-four years, were applied. Cicatrization went on satisfactorily until April 5, when ulceration commenced in the now almost cicatrized wound where the first grafts had been planted, and soon destroyed the cicatrization. The grafts applied on the second occasion did not ulcerate, but became pale and fell off. The new ulceration had a syphilitic aspect; but the man's wife, who had nursed him, having also been attacked with erysipelas which proved fatal, and a lodger suffering from lymphangitis, it was concluded that the whole had arisen from infectious causes due to the very unsanitary condition of the house in which they all resided. The ulcerations improved on being touched with nitrate of silver, but new ones kept appearing during the next three months, and ten weeks after the first application of the grafts the skin and scalp became the seat of syphilitic eruption, and some weeks later the mucous membrane of the mouth was affected. A mercurial and iodide treatment was put into force, and eight months after the first appearance of the erysipelas the breach of surface became entirely cicatrized. It turned out that a son, who had furnished some of the grafts, was the subject of syphilis.

Clinical Reports.

ARTICLE VI.

OVARIOTOMY. By Professor THEOD. BILLROTH, Vienna. Reported by Dr. R. Stansbury Sutton, Formerly Lecturer on Gynæcology, Rush Medical College, Chicago.

This patient, Josepha Stedoma, is fifty-six years of age. She was married for eight years, during which time she gave birth to five children; the last was born in 1861. She is now a widow. Two years ago she observed a swelling in the abdomen. This swelling has constantly increased, and has at times been accompanied with pain. She has not complained of any distress in the functions of the bladder. During the last six weeks she has suffered a good deal of pain in the abdomen, which has been very sensitive, even to slight pressure. Eight days ago this pain subsided to a marked extent. At present, when recumbent, she has no pain, but when she walks she has some discomfort in the right hypochondriac region. The patient began to menstruate regularly at twenty years of age, and menstruation ceased at forty-eight. She is moderately large. She is anæmic, but her heart and lungs are normal. Dullness on percussion begins at the fifth rib on the right side, and extends over the enlarged abdomen. The abdomen is free from spots or marks upon the surface, and is also free from œdema and enlarged veins. The skin is tolerably tense.

Circumference at the umbilicus	39 in	98 Cent.
From zyphoid cartilage to umbilicus	6 in	15 "
From symphysis pubis	4¾ in	12 "
From sup. spinous process of ilium to umbilicus on both sides,	11 in	28 "

The abdomen is moderately well distended, and the skin is

tense. Fluctuation is distinct at all points. On palpation, there is found on the left side a peculiar parchment-like crepitation. Two fingers' breadth below the zyphoid, to the left side, the dullness begins, and extends downward to the symphysis pubis and laterally into the lumbar region. A vaginal examination reveals the os uteri high in the pelvis and the uterus movable.

OPERATION.

The abdomen was well washed, scrubbed and shaved, and finally rubbed off with a compress wet with five per cent. solution of carbolic acid. The ordinary mixture of chloroform 100 parts, ether 30, and alcohol 30 parts was administered. An incision was now made in the linea alba seven or eight centimeters in length, ending four centimeters above the symphysis pubis. The exposed multilocular cyst was now emptied of six litres of dark, heavy fluid. The small adhesions, quite numerous, were separated with the fingers. Firmer ones were tied with carbolized silk sutures and burnt off with Paquelin's cautery.

The cysts were emptied sufficiently for the removal of the solid portions. The pedicle was found to be from the left ovary. The pedicle was long and not twisted. With a clamp a furrow was now made across the pedicle, and in this furrow the pedicle was tied in two sections with carbolized silk ligatures, cut short. The cyst was now cut away with the knife. The stump of the pedicle was now over a sponge divided again exterior to the ligatures with Paquelin's cautery. The "toilette de peritoneum" was carefully made, and the wound was now closed with a row of deep sutures of silver wire and lead buttons, and a row of superficial carbolized silk sutures. The wound was now dressed with iodoform gauze, Mackintosh cloth and a binder.

In the evening, ten hours after the operation, the temperature was 37° and pulse 92. The next morning the pulse fell below 90, and did not again rise above it. The temperature never exceeded 37 5–10°. The wound healed by first intention, the sutures were removed on the seventh day, and the patient was discharged on the seventeenth day after the operation.

ARTICLE VII.

FIFTEEN CASES OF TYPHOID FEVER IN COOK COUNTY HOSPITAL. Read Before the Chicago Medical Society, Feb. 6, 1882. Reported by H. D. VALIN, M.D.

I.—O. T., eighteen years of age, a Swede; laborer; was admitted to the hospital August 1, 1881, having been sick five weeks already. The disease began with a chill, which recurred three weeks later. Patient had been in bed eleven days. At first there had been constipation, and later diarrhœa. Petechial rose spots were present on the abdomen. On the day of his admission to the hospital, his temperature was 104°, and his pulse 90. He was placed in the wet sheet, took the fever mixture, consisting of cinchonidia sulphate and aromatic sulphuric acid, in ordinary doses, every three hours, and took one-third grain of iodine three times a day from August 16 to 24, when he got well. After August 1 his temperature never rose above 103. He received a milk diet. He was sick eight weeks.

II.—A. Q., æt. twenty; a Swede; brick-mason; fell sick July 17, 1881, with a diarrhœa, and had epistaxis the 21st. He was living in bad hygienic surroundings, and he was admitted to the hospital July 25. Temperature 103; pulse 94. His temperature rose to 104 July 30, and to 104.5 August 4, after which it gradually returned to a normal condition, the patient leaving his bed July 20. The high temperature was reduced both times by placing the patient in the wet sheet. The treatment consisted of cinchonidia sulphate and aromatic sulphuric acid. Patient had been sick twelve weeks before entering the hospital, and was not discharged till four weeks later.

III.—J. I. æt. eighteen; English; laborer; had been exposed to bad weather, poorly fed, had bad water to drink, and lived in unhealthy surroundings. He was taken sick with chills, fever and diarrhœa, and came to the hospital July 27, the sixth day of his disease. Temperature 103; pulse 94. His temperature rose to 104 July 30, and he was placed in the cold wet sheet, cold sheets being renewed every fifteen minutes till the temperature came down to 102 or lower. He received the ordinary dose of cinchonidia sulphate and aromatic sulphuric acid. August 3,

his temperature was 104. August 4 his pulse was 62, and his temperature 100.5. He took ten drops of the fluid extract of jaborandi. August 11, his pulse was 58, and his temperature 98.3. He soon afterward got well.

IV.—N. D., æt. twenty-five; Swede; laborer in the lumber yards; was admitted to the hospital August 4, and had been sick already three weeks. He had come to this country nine months ago. Had had epistaxis three times, and diarrhœa. At the time of his admission, his temperature was 103, and it rose to 104 August 6. He was placed in the wet sheet. August 8, it was found necessary to catheterize. Temperature did not rise much above a hundred subsequently, and August 20 he was well. The treatment consisted of the same remedies as in the preceding cases, and he also took one-third of a grain of iodine every three hours.

V.—C. F., æt. twenty-one; Swede; blacksmith; had been sick two weeks when he came to the hospital, August 13. His temperature was 105. His father had died of pneumonia, and he has an œzena. He came to this country seven months ago, and at the time that he was taken sick he slept with nine companions in one room, on Kinzie street. All of them were sick, and four of the number came with him to the hospital, sick with typhoid. August 14 he was kept in the wet sheet three hours, and again the 15th, 16th and 18th. August 23, he was well.

VI.—C. P., æt. twenty-two; Dane; cabinet-maker; was admitted to the hospital August 8, after he had been sick two weeks. He came to this country two months ago, and he had slept with a companion in a small room. Had diarrhœa from the start. The temperature ranged from 100, 102, to 99, and he was discharged August 24. Had the ordinary treatment.

VII.—S. J., æt. twenty-three; Swede; laborer; was sick a week before his admission to the hospital, August 6. He came to this country two years ago. On admission his temperature was 102.5, and there was some diarrhœa. Besides the fever mixture, he took half an ounce of whisky three times a day. His temperature ranged from 102 to 98, and August 27 he was well.

VIII.—F. G., æt. thirty-one; German; willow-ware maker; was sick two weeks before his admission to the hospital, August 11.

His bowels at that time had not moved for four days. Pulse 104; temperature 103.8. Dry, sibilant râles over both lungs, and expectoration of a light-colored mucus. August 22, he took two drachms of castor oil with ten drops of spirits of turpentine, to move his bowels, and took the sulphate of cinchonidia mixture the rest of the time. He was well in a few days.

IX.—E. A., æt. twenty-five; Swede; worked in the lumber yards; was sick a week and a half, and then came to the hospital, August 13, when his pulse was 68, and his temperature 100. His father had pneumonia three times, and he had it himself four years ago. He came to this country fourteen months ago, and had been in Chicago five months. He was taken sick on Kinzie street, with Case V, and several others. He had a chill, and epistaxis. He was administered two drachms of castor oil with ten drops of spirits of turpentine, and received an enema. August 15, his pulse was 48, and his temperature 99. Besides the ordinary mixture, he took five grains of sulphate of cinchonidia every three hours. August 15 and 20 he had a profuse perspiration, and August 22 he was well.

X.—T. M., female, æt. seventeen; Norwegian; came to Chicago a year ago; was sick two weeks before coming to the hospital, August 1. Sickness had begun with a chill, and she was costive. On admission, her pulse was 106, and her temperature was 104.8. Tongue heavily coated brown. There was some sore throat and cough. Sibilant râles over the lungs. She was placed in the wet sheet, but her temperature remained high till August 8. Two small abscesses formed, August 7, on the dorsum of the sacrum, and an eruption appeared all over the body. Patient was somewhat delirious. There was subacute bronchitis. From August 15 patient improved till the 22d, when she got well. There had been no diarrhœa. She took the fever mixture as the rest of the cases.

XI.—J. K., æt. 61; American; machinist; had typhus fever when sixteen years of age. Went to the army, and had chronic diarrhœa during three years; was wounded five times. Present sickness began with a chill, slight vomiting, severe griping pain and tenesmus. Passed a tapeworm in June last. He was admitted to the hospital August 16, after a day's sickness, and his pulse

was 93, and temperature 100.2. He took iodine, one-third of a grain three times a day. The diarrhœa stopped August 18. August 22 he was well. There had been no rise in the temperature.

XII.—J. L., æt. twenty-nine; Swede; worked in lumber yards; had been sick a week and came to the hospital, August 8. He had come to this country a year and a half ago. Last spring he had a fever which lasted three weeks. The present sickness began with constipation, and a greenish vomit. August 12, the temperature was 103, and he was placed in the wet sheet for four hours. He began taking iodine August 16, had a profuse perspiration the 18th, and he improved till the 27th, when he got well.

XIII.—S. J. N., æt nineteen; Swede; brick-mason; came to this country a year ago; lodged with three companions in one room, and fell sick with diarrhœa two weeks before coming to the hospital, where he was admitted August 10. His temperature was 104. He coughed and expectorated thick sputum, streaked with bright blood (his mother had died of pneumonia). He was wrapped in the wet sheet four hours. August 17, he began taking iodine, and also received enemas of spirits of turpentine. August 19, he had seven stools, for which he took ten grains of bismuth, with one-fourth grain of morphine. August 20, iodine was discontinued. The 24th, his temperature was 96, and he expectorated rusty sputa. Took half a grain of quinine t. i. d. The 25th, he had more diarrhœa, and took bismuth and morphine as before. August 30 he was well.

XIV.—J. K., æt. thirty; Bohemian; was admitted August 10. Had crepitant and subcrepitant râles over the entire lungs. Pulse 118; temperature 100. Took half an ounce of whisky and two drops of tr. of digitalis every three hours; two and a half grains of sulphate of cinchonidia four times a day. August 16, his temperature was 103.6; the 17th it was 104, and he was placed in the wet sheet. There was pleuritic friction on the right side. Took one-fourth grain of morphine three times at suitable intervals. August 22, he began to fail. Took

℞ Camphoræ.....gr. ij.
Strychn..... .....gr. 1-120.
Tr. digitalis.....gtt. v.
Spts. frumenti.....℥ss. M.

every two hours.

August 24 he was partially collapsed, and died the next day. No autopsy. He had propably been sick three weeks before coming to the hospital, but had no interpreter.

XV.—J. L., æt. thirty-seven; Canadian; had been sick two weeks, and came to the hospital August 24. Had lost the use of his left leg by a white swelling of the knee, when fifteen years of age. Had diarrhœa a part of the previous winter, and in June. Temperature and pulse on admission were nearly normal, and he was discharged well August 28.

REMARKS.

These fifteen cases were the first of a series of forty-five which the reporter surveyed, with about the same results. The fever mixture consisted of about eight drops of aromatic sulphuric acid, two and a half grains of sulphate of cinchonidia, a drachm of syrup, and half an ounce of water. The sulphate of cinchonidia seemed fully as good as quinine, and was much cheaper. The cold wet sheet seemed to be by far the readiest and best means of controlling high fever, and whenever the temperature reached above 102.8 an oil cloth was spread over the bed, the patient was placed on it stripped, and covered with a wet sheet, just dipped in water as it came from the hydrant. The sheet was renewed every fifteen minutes, until the temperature had come down to 100 or lower. This would take from half an hour to four or five hours.

By inquiring of the leading physicians in Chicago, it was found that they all used the mineral acids and quinine, giving large doses of the latter when the fever rose, but the wet sheet seemed not to have been used in private practice. The reporter used aromatic sulphuric acid, five drops, and sulphate of cinchonidia, two and a half grains, every three hours with good results in a dozen cases of typhoid fever, and the same proved a valuable remedy in controlling chronic diarrhœa. The iodine treatment, tried in several cases, gave a good result, except in a few where it was stopped on account of vomiting.

Society Reports.

ARTICLE VIII.

CHICAGO BIOLOGICAL SOCIETY. Stated Meeting, February 1, 1882. Dr. C. Fenger, President, in the Chair.

The President presented a report of six cases of aneurisms, an abstract of which follows:

I.—The first was a case of traumatic and popliteal aneurism, in a man æt. thirty-five. On the Fourth of July he was shot in the left popliteal region. The wound was small, and caused but little hæmorrhage, but there was severe pain and difficulty in walking. On examination, the popliteal space was found swollen, there was the ordinary pulsation of aneurism, and a bruit was audible.

July 5 the patient was anæsthetized, an Esmarch's bandage rolled up the thigh, and Dr. Fenger made an incision into the popliteal space, following a probe which had been introduced into the bullet wound as far as the anterior head of the gastrocnemius. The ball, caliber 32, was removed, and it was found that the popliteal artery had been perforated twice. This having been ligated, the wound was dressed antiseptically. The whole operation had been done according to Lister's method.

July 6, the temperature was 102.1, and moist gangrene set in. Dr. Fenger proposed amputation at middle of the thigh, but the patient refused, and gangrene extended upward.

July 8, amputation was made at the upper third of the thigh, but gangrene continued in the stump. Patient died at nine P. M. the 10th.

Professor Fenger said it was conservative surgery to apply a ligature as he had done in this case; that is, it agreed with the

latest works on surgery, although immediate amputation was recommended by a few. Cases like the latter rarely proved successful. It has been advised to ligature the femoral artery, and the femoral vein also, in order to avoid gangrene. The doctor believed a simultaneous ligature of both vessels was advisable, but he could not explain why gangrene would be thus less likely to occur, although such was the case.

II.—The second case was also that of a man, and involved the left popliteal artery. March 17, 1880, the patient applied for treatment, the aneurism having increased for six weeks previous. Dr. Lee tied the femoral artery, and the patient did well, but on June 15 the aneurism returned. An elastic bandage was applied, but the tumor enlarged till July 20, when it was seven inches in length.

Dr. Fenger then operated antiseptically, and a dark fluid was removed from the sac of the aneurism, whose walls were those of the popliteal space. There was profuse hæmorrhage. He ligatured the popliteal artery, checking capillary hæmorrhage with a solution of chlorate of zinc, and introduced a drainage tube.

September 20, the aneurism had healed.

October 19, patient was discharged.

March 25, 1881, the extension of the limb was not perfect, on account of the large cicatrix, and there was some œdema about the foot; patient otherwise well.

III.—Aneurism of external iliac. Patient, a man, twenty-five years of age, had a neuralgia in his left foot for a year previous to April 20. On the latter day, while pulling on his boot, he felt some pain about Poupart's ligament, and soon a pulsating tumor made its appearance in the left groin. On examination, it was found to be three inches long and two inches wide, and was accompanied with the ordinary bruit. July 10, dry gangrene attacked some of the toes. Incision was made July 12, and the external iliac was ligatured. July 14, the gangrene had reached the malleoli. July 20, the wound in the groin had healed, but gangrene had advanced to the knee, and some hæmorrhage took place. July 26, hæmorrhage increasing, Dr. Fenger ligatured the common iliac. There followed much pain, delirium, and gan-

grene advanced above the knee. No line of demarkation had formed. Patient died the 29th.

Autopsy.—A clot had formed in the left common iliac; the catgut ligatures were absorbed, all but the knots, and arteritis deformans had set in in the arteries. Calcareous changes had taken place in the profunda femoris.

Complete recovery was not to be hoped for in cases like the above. Amputation had been justifiable after a line of demarkation had formed.

IV.—Aneurism of the head. Patient; male; æt. twenty-six. When a little boy, a small tumor formed at the anterior fontanelle. When fourteen years old, the tumor, then the size of a walnut, ruptured, and healed again, but the aneurism enlarged till he was twenty years old, when it was the size of the hand. It increased afterward, giving rise to little inconvenience. July 2, 1879, it ruptured, and a profuse hæmorrhage took place. August 2, the right common carotid was ligatured, with improvement in the aneurism. August 17, the left common carotid was also ligatured; patient stopped breathing, but afterward revived. Aphasia and difficulty in deglutition followed. August 20, extirpation of the aneurism. August 21, transfusion of blood into the patient. August 24, temperature was 104, and ulceration was taking place in the wound. August 25, patient died, with a temperature of 106. No autopsy. Septicæmia had caused death. This had been an unusually desperate case, especially on account of the spontaneous rupture of the aneurism.

V.—Traumatic aneurism of the carotid artery. The patient, a man, was shot in the cheek, near the margin of the orbit. On examination, Dr. Lee found the jaws closed, difficult deglutition, and swelling of the tonsils. Eight days afterward the patient was able to go out, but there was much pain in the right side of the neck; tonsillitis. A swelling appeared on the hard palate, which the doctor thought might be the ball. On opening into it, it proved an aneurism. Much hæmorrhage followed, and the patient died on the spot.

Autopsy.—Dr. Fenger, on opening the neck, found pus at the bifurcation of the carotids, some old and also some recent clots of blood, and an inch above, the artery had been perforated by

the ball, caliber 32, which was found impacted in the sphenoid bone. This case was one of rare occurrence, and difficult in its diagnosis.

VI.—Aneurism of upper part of vertebral artery.

G. K., æt. nineteen, was shot in the back of the neck January 6, 1881, with a 32 caliber ball. There was swelling in the parotid region. The wound was two inches behind the mastoid process, and severe pain was felt at the left angle of the lower jaw. January 11, the wound was dressed, and some pulsation was observed. January 15, a tumor made its appearance on the outside. Dr. Lee ligatured the left common carotid artery. Patient's temperature at one time reached 103, but improvement afterward followed.

February 1, patient appeared in court, had to talk a good deal, and returned to the hospital much worse. Pulsation returned behind the left mastoid process of temporal bone, and iodide of potassium, with ergot, were administered, but the aneurism increased. February 9, Dr. Fenger tried to ligature the arteries supplying the tumor, together with other tissues, but he had to make a free incision two and a half inches long, much hæmorrhage following. Splinters of bone were felt at the bottom of the wound. He removed the upper fourth of the sterno-cleido-mastoid, found that the aneurism was supplied by the vertebral artery, and ligatured the latter. Artificial respiration had to be resorted to, and eight ounces of defibrinated blood transfused into the patient. Pulse was 150 a minute. Patient rallied. February 17, the drainage tube was removed. Patient was well March 15, but a full motion of the head did not return until August.

In order to diagnosticate an aneurism of the vertebral artery, it was necessary to compress the latter over the carotid tubercle of the cervical vertebra. External compression of the artery, in one reported case, ended in a cure of the aneurism.

Prof. Fenger advised, as a conclusion of his paper, an early ligature of the arteries and removal of aneurisms. He did not believe in acapuncture or galvano-puncture, and thought that coagulation thus induced was not always desirable.

Dr. B. Bettman read an inaugural paper on "The Condition

of the Eyes in two fatal cases of Pernicious Anæmia," an observation made by him in the Pathological Institute of Heidelberg.

I.—The first case was that of a female, æt. thirty-seven, whose blood, in June, 1880, contained 1,298,600 red corpuscles in each cubic millimeter. It contained also microcites and porculocites in large numbers. She died August 25. The appearance of the eyes was this: both papillæ were pale, the fundus was paler yet, and venous pulsation was observed on the papillæ. Small retinal hæmorrhages appeared in the right eye July 15. July 23, new hæmorrhages appeared, while the old ones had disappeared. They now made their appearance in the left eye, and could be referred to repeated vomiting. Under the microscope the stump of the optic nerve appeared normal, the retina was œdematous, and transudation had taken place in it. The axis fibers of the nerves were œdematous. The membrana limitans had been perforated at the seat of the hæmorrhages, and the rods and cones destroyed. Clots had formed between the retina and the choroid, probably at the time that vomiting had taken place.

II.—The second case, J. P., æt. forty-four, had been sick since the 14th of May. Spleen and liver enlarged. Painful spots were felt over the bones. Died June 25.

Examination of the eyes: Extravasation and hæmorrhages took place; white plaques appeared and disappeared; hydrops of the sheath of the left optic nerve was found, together with hæmorrhages, as in the preceding case. The right eye was similarly affected. There was serous transudation, especially in the neighborhood of the papilla. Varicose nerve fibers extended into the vitreous humor.

The preceding are but a few notes from the doctor's paper, which was a brilliant and masterly contribution to the disease under consideration. He was elected a member.

THE spray has been abandoned by many surgeons, and even Mr. Lister has spoken in qualified terms of its necessity; and had we to prophesy instead of to record accomplished facts we might venture to predict an early abandonment of this cumbrous addition to a surgeon's armamentarium.—*Med. Press and Circular.*

Domestic Correspondence.

ARTICLE IX.

NEW YORK, FEBRUARY 3, 1882.

EDITORS MEDICAL JOURNAL AND EXAMINER:—The assertion having been made in various quarters that the *Journal of Nervous and Mental Diseases*, heretofore edited by Dr. J. S. Jewell, of Chicago, and of which for the past five years we have been the publishers, has been "sold out" or discontinued, we desire to state to the medical profession that there are no grounds for any such statement. There has been no break in its publication, no intention to discontinue it, and no announcement of any such intention. Dr. J. S. Jewell having been compelled on the ground of ill health to resign the editorial management, has transferred the same to Dr. W. J. Morton, of this city. He continues, however, as an associate editor, to give to the *Journal* the service of his long professsonal and editorial experience. In addition to Dr. Jewell, the editor has secured the coöperation, as associate editors, of Drs. Seguin, Hammond, Bannister, Clymer and Ott, and the *Journal* gives every promise, under its present able management, of widely extending its work and influence.

By giving this note a place in your pages, you will oblige,

Yours respectfully, G. P. PUTNAM'S SONS.

ARTICLE X.

JANUARY 26, 1882.

MESSRS. EDITORS:—I see an article in your journal by Dr. Rosencrans, in reference to a case of epilepsy cured by enucleation of an eye. I think it was in 1878 I reported such a case

in the *Louisville Medical News*. The woman had had fits since an injury to right eye, caused by a blow from a chip of wood. I suspected the eye as the cause, and advised an enucleation, to which she submitted, having tried all other remedies without relief. She had averaged one fit per day for several years. You can imagine her condition. I gave her ether, and while under its influence—or rather while recovering from its influence —she had ten or twelve of the most severe attacks of epilepsy I ever saw. Her head and heels almost touched. After she entirely recovered from the anæsthetic, she never had another. The "aura" appeared to her to originate in the eye. The eye was thoroughly degenerated. Synechia anterior; lens absent. Bone in choroid. Nerve with a glaucomatous excavation.

She was under my observation for two years afterward, and reported entirely well. The case was of great interest at the time to me. Have heard of several similar ones since. She took no medicine after the eye was enucleated.

Respectfully,

W. CHEATHAM, M.D.

315 W. Walnut St., Louisville, Ky.

OLD JOURNALS WANTED.—Dr. A. B. Judson, a gentleman of superior attainments in joint diseases, residing at No. 129 East 17th street, New York City, wishes very much to obtain the following back numbers of the CHICAGO MEDICAL EXAMINER, viz: September and December, 1860, and June, July and October, 1861. He will pay six dollars for the two volumes referred to, or one dollar each for the particular numbers above mentioned. Dr. Judson is a most worthy member of our profession; and any one able to supply him will confer a favor by writing him at the above address.

E. ANDREWS, M.D.

Reviews and Book Notices.

ARTICLE XI. — AN ELEMENTARY TREATISE ON PRACTICAL CHEMISTRY AND QUALITATIVE INORGANIC ANALYSIS. By FRANK CLOWES, D.S.C., London. With Illustrations. From the Third English Edition. 12mo, cloth, pp. 372. Philadelphia: H. C. Lea's Son & Co. 1881.

The author says in his preface: "The book is especially intended to furnish a course of instruction in practical chemistry in the laboratories of our public and other schools." This aim has been successfully attained. The treatise is also adapted for medical and university students, and is essentially practical. The faults of such a work consist in separating qualitative from quantitative analysis, which should be studied together preferably, and in confining its domain to inorganic substances only. Thus a student might be proficient in his study, yet he would not deserve the title of analytical chemist, after thus cutting the matter to one-fourth.

This is a fault manifested in many scientific books, however, and is a division of labor which may have its usefulness, after all, especially if other branches have been partially looked into by the specialist.

The book is well printed, and the illustrations (of instruments mainly) are well executed. A large part of the volume consists of tables, which, although presenting the subject in a condensed and comparative form, are very intricate, and must be rather unattractive for most students.

ARTICLE XII.—PHYSIOLOGICAL LABORATORY, HARVARD MEDICAL SCHOOL, Boston. Collected Papers, 1873–1879. For Private Circulation. 8vo, cloth, about 150 pages. Illustrated with Photographs, Wood-cuts and Diagrams.

Many valuable physiological experiments are described in this book, which begins with a prize essay by C. H. Williams, A. B., "Experiments on the Action of Bile in promoting the Absorption of Fats," and one "On Intestinal Digestion," by G. M. Garland, which also received the prize of the Boylston Medical Society.

In a valuable series of experiments, O. L. Walton shows that the epiglottis is of little account in deglutition, but that its main function is in regulating speaking and singing.

Several contributions by Dr. H. P. Bowditch are contained in the same volume, which will prove more valuable to authors and professors than to practitioners.

ARTICLE XIII.—HANDBOOK OF CHEMICAL PHYSIOLOGY AND PATHOLOGY, WITH LECTURES UPON NORMAL AND ABNORMAL URINE. By VICTOR C. VAUGHAN, M.D., PH.D. Third Edition. Revised and Enlarged. Contains an Appendix of Twenty-six Plates, illustrating the Chemistry of the Urine. 8vo, cloth, pp. 351. Ann Arbor: Ann Arbor Printing and Publishing Co. 1880.

This manual contains but very little original matter, yet it presents a tolerably good résumé of the researches on which this new science is based, and is entirely practical.

The pathological part is mainly concerned with urine analysis, and does not justify the title of the book. In fact, more than half of it treats of the urine. The plates, most of them copied from other text-books, are very good indeed; the text is clear and well printed, and the binding substantial. More investigation into the chemical changes attending fatty degeneration, cancers, infectious diseases, and various tissue metamorphoses, would augment materially the value of such a work for students and practitioners.

ARTICLE XIV. — A HANDBOOK OF VERTEBRATE DISSECTION. By H. NEWELL MARTIN, D.S.C., M.A., M.D., and W. A. MOALE, M.D. Part I. How to Dissect a Chelonian. 12mo, cloth, pp. 94. New York: Macmillan & Co. 1881.

Our readers will probably remember that Dr. Martin, Professor in Johns Hopkins University, was the joint author of the valuable little book known as Huxley's Biology.

The book now under consideration treats of the dissection of a mud turtle, also known as terrapin; and two other volumes, treating respectively of a pigeon and of a rat, will soon follow. A plate of four figures, representing the skull, accompanies this volume, which, in our opinion, ought to have been well illustrated, since anatomy is so difficult a subject, especially for beginners. Two main defects will be noticed on using this book, (*a*) no measurement of organ or of skeleton is referred to, and (*b*), the relations of the anatomical parts of the turtle to the corresponding parts of man, and to those of animals lower in the series, which is not alluded to. The oft-repeated words notice, observe, remark, are of far less value than they seem, for any student undertaking to dissect a mud turtle is usually endowed with a natural faculty of observation. As this is a new departure in anatomical study, however, and intended as a help to students, we believe that it is to be commended; and at the same time, the authors are highly qualified for the present undertaking.

ARTICLE XV.—THE PRINCIPLES OF MYODYNAMICS. By J. S. WRIGHT, M.D., Professor of Surgery, and Lecturer on Physical Science at the Long Island College Hospital. 12mo, cloth, pp. 162. Illustrated with Twenty nine Diagrams. New York: Bermingham & Co. 1881.

At first sight, this work recalls the Pleurodynamics of Dr. Garland, and one expects to find in it the *causes* of contractions in muscles, a subject which has given rise to a good deal of discussion of late; or, at least, the weight under which muscles would break, etc.; but there is no dynamics about this book; it is simply the mechanism of lever-action in bones and muscles, illustrated by a great many diagrams. The book may not prove useless, however, for, as the author says in his preface: "The

better the surgeon understands the principles of myodynamics, the better he can treat fractures, dislocations and deformities"—other things being equal, of course.

ARTICLE XVI.—THE WILDERNESS CURE. By MARC COOK, Author of "Camp Lon." 12mo, cloth, pp. 153.

The author is not a physician, but his ideas seem well grounded, and are sustained by many prominent physicians in New York, who praise the Adirondack mountains as a most valuable resort for consumptives. This little book is interesting, and well adapted for any visitor to the northern part of New York State. Besides its picturesque scenery, and the great contrast which the Adirondack country offers to the residents of New York City, it is more than doubtful whether it should be recommended as a health resort. A personal investigation of the matter has led the reviewer to believe that no advanced case of phthisis could be benefited by visiting such a barren tract of land, exposed, as it is, to the most sudden changes of temperature. However, the proximity of the Adirondacks to Saratoga; their wilderness, contrasted with so many large cities all around, probably make it the best summer hunting ground, and a most beautiful country in which to spend a vacation, especially whenever health fails the Eastern student or business man.

ARTICLE XVII.—THE ESSENTIALS OF ANATOMY. By WILLIAM DARLING, M.D., F.R.C.S., and AMBROSE L. RANNEY, A.M., M.D., 8vo, cloth, pp. 629. New York: G. P. Putnam's Sons. 1880.

This voluminous "Essentials" is intended as an accompaniment of Gray's Anatomy, or other large text-book, whereby the memorizing of anatomical facts and names can be facilitated. Thus, it contains tables enumerating the muscles cut in various amputations; colored diagrams to help the student in remembering the course of the circulation! the total number of muscles supplied by any special nerve in each particular muscular region, and a number of other similar intricacies, which make the study of anatomy so difficult, and necessarily so impractical.

It is well that the authors, in their preface, anticipated the

poor reception which their work would receive at the hands of the critics. If they had condensed their material into a book of 200 pages, by cutting the blanks as far as practicable, and had it printed in smaller type, most students would probably welcome it. But as it is, it will remain better known as the cause of an important law-suit regarding the rights of a lecturer to his lectures, than as a valuable volume.

ARTICLE XVIII.—THE THERAPEUTICS OF GYNÆCOLOGY AND OBSTETRICS. Second edition, thoroughly revised and greatly enlarged. Edited by W. B. Atkinson, A.M., M.D. 8vo, cloth, pp. 571. $4. Philadelphia: D. G. Brinton. 1881.

The number of authors quoted being 422, and the number of formulæ 500, it is clear that the subject is exhaustively treated. In fact, this is a sort of encyclopædia, forming with "Modern Medical Therapeutics" and "Modern Surgical Therapeutics" the best collection of prescriptions ever made. And this is the main recommendation of these works. The book under consideration is especially adapted for those practitioners who are unable to construct their own prescriptions, or too busy to study the late works on Therapeutics; but it would be more likely to mislead students than impart the necessary knowledge of the subjects treated in such a vague manner. It is useless to add that no physician of ability ever copies the formulæ of others; and upon inquiry we generally find that the prescriptions thus purporting to be the favorite formulæ of professor so and so, have been used by him but occasionally, for all physicians vary their medicaments according to the circumstances of the case.

However, the numerous quotations which fill up this volume are entirely modern, and the editor seems to have spared no pains to make the work as useful and as practical as could be.

ARTICLE XIX.—PATHOGENETIC OUTLINES OF HOMŒOPATHIC DRUGS. By Dr. Med. Carl Heinicke, Translated from the German, by Emil Tietze, M.D. 8vo, cloth, pp. 576. New York and Philadelphia: Boericke & Tafel. 1880.

The author remarks that the registration of symptoms in the present work has been arranged according to the *anatomico-phy-*

siological schema. Indeed, homœopathy is undergoing quite a metamerphosis of late. However, Dr. Heinicke prides his *school* on the discovery that some inert substances homœopathically prepared, develop effects of great practical value (in homœopathic practice alone, we suppose). Marble, charcoal, carbonate of magnesia, graphite and quartz, written in Latin, are the substances alluded to. But we may add that they are seldom used by our confreres, who rely more on mercurials, opiates, quinine, and aconite than we regulars sometimes do, as we know from homœopathic physicians themselves.

If the book was not one of the productions of the new school, we should feel obliged to say that it is the silliest work ever written on therapeutics. However, when the author vouches for the millionth dilution of one grain of carbonate of lime, and the shaking of the contents with *two powerful strokes of the arm*, which number used to be ten as patented at first by Hahnemann, we are struck with awe, and veneration. We highly recommend the book to all of the homœopathic fraternity, and expressly recommend them to add the word homœopathic after their name; for this is not the profession of medicine, it is the application of certain drugs to certain symptons, while *we* profess to study and treat diseases on rational principles.

ARTICLE XX.—A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By WILLIAM A. HAMMOND, M.D. With 112 Illustrations. Seventh edition, rewritten, enlarged and improved. 8vo, cloth, pp. 930. New York: D. Appleton & Co. 1881.

Professor Hammond is one of the most remarkable physicians who have ever adorned the profession in America. His immense, original and careful investigations, have obtained for him a reputation which will be everlasting. But his very originality, while it has given him such a reputation in Germany, and the honor of so many quotations in Ziemssen's Cyclopædia, has made him many enemies in this country. In fact, Dr. Hammond seldom misses a chance to come before the public, be it to criticise the attendants of the late president, or to defend Dr. Beard and hypnotism. But this is a necessity of the times, when good writers have to make their own way, and look for a living besides.

We always heard or read Dr. Hammond with interest and pleasure, not to say with enthusiasm. His work on Nervous Diseases as now presented in its new form is entirely one of the best text-books on the matter, and we recommend it highly to students and to practitioners as well. The fact that this is the seventh edition in ten years, would of itself be the best recommendation. Besides strictly nervous diseases, this work also treats of hydrophobia, exophthalmic goitre, syphilis of the nervous system, plumbism, alcoholism, bromism, hydrargism and arsenicism, besides the diseases of the sympathetic nervous system.

ARTICLE XXI.—A PRACTICAL TREATISE ON NASAL CATARRH. By Beverly Robinson, A.M., M.D. 8vo, cloth, pp. 182. New York: William Wood & Co. 1880.

This little monograph, notwithstanding its deficiency in some respects, will be welcomed by the profession. It is brief, carefully prepared, and contains a number of useful hints, directions and prescriptions, which have the advantage of being entirely practical.

Here are some of these formulas. In the way of local applications to the inflamed mucous lining, in acute coryza, the author highly recommends:

℞ Pulv. fol. belladonnæ.....gr. xx.
Pulv. morphiæ sulph.....gr. ij.
Pulv. gum acaciæ.....ad. ʒss.

M. S. Use with the powder blowers for anterior and posterior nares.

The next is a formula for internal use:

℞ Potass. citratis,
Syr. ipecac.,
Tinct. opii camphor.. .....aa ʒij.
Syrupi acaciæ ... . ʒi
Aquæ.....ad ʒij

M. S. A teaspoonful every hour and a half or two hours.

As a substitute for some mineral water, to move the bowels, the author gives:

℞ Magnesii sulph.....ʒss. to ʒj
Magnesii carbon.....ʒss.
Syrupi limonis.....ʒss.
Aquæ menth. piperitæ.....ad ʒj.

M. S. To be taken as a dose.

In chronic coryza, the following powders blown through the nostrils posteriorly and anteriorly are beneficial.

℞ Pulv. iodoform.....3ij
Pulv. camphoræ.....3i.
Pulv. acid tanniæ.....gr. v.
Pulv. g. acaciæ.....3ij. M.

℞ Hydrarg. chlor. mitis.....3i
P. sacch. alb.....3ij.
P. morphiæ sulph.....gr. j.
P. bismuthi subnit.....3ij. M.

ARTICLE XXII.—LECTURES ON THE SURGICAL DISORDERS OF THE URINARY ORGANS; Delivered at the Liverpool Royal Infirmary. By Reginald Harrison, F.R.C.S. Second edition, considerably enlarged. London: J. & A. Churchill. 1880.

These lectures are illustrated with eight lithographs, and thirty-eight wood-cuts. By far the larger part of these lectures have been taken up with stricture of the urethra, and calculi in the bladder, with their numerous complications. These subjects are treated in a masterly manner, and will well repay a careful study by surgeons who have occasion to meet these affections often. The few cases reported, give the work still greater value, and it is needless to remark that it is entirely practical.

We are glad to hear Dr. Harrison raise his voice against a mere splitting instead of removal of the prepuce, when circumcision is necessary. Not only are the *angles* left inconvenient, but they are a disfigurement which will generally remain as an index of former venereal disease.

On the whole, these lectures are quite a valuable contribution to the literature of the subject, and represent a vast amount of personal experience. As to the appearance of the book, the printing and the binding, it is inferior to the average medical book published in the country.

ARTICLE XXIII.—A TREATISE ON FOOD AND DIETETICS. By F. W. Pavy, M.D., F.R.S. Second edition. 8vo, cloth, pp. 402. Forming the August No. of Wood's Library for 1881.

One of the most valuable books in the series. The intrinsic value of four such works more than repay for the money paid on the whole. In fact, although Wood's Library is not composed of the best text books, it nevertheless inaugurates a new era in the

publication of medical treatises, and enables the poorest practitioners of medicine to have a complete library at their command for the small sum of little more than one dollar a month.

Dr. Pavy, in his introductory remarks on the dynamic relation of food, brings the subject down to the latest discoveries of modern science, and treats it in a masterly manner, except that he overlooks the "adulteration of food," which is not unimportant in this age, and the means of detecting various adulterations ought to have been mentioned at least.

The numerous analyses of various foods, their work-producing capacity, and various other considerations are of the highest practical value. On the controverted subject of beef-tea, the author expresses himself in these words: "Beef-tea represents a highly nutritive and restorative liquid, with an agreeable flavor," but the true position of Liebig's extracts of meat, is scarcely that of an article of nutrition. If not truly of alimentary value, the preparation, nevertheless, appears to possess stimulant and restorative properties which render it useful in exhausted states of the system.

The chapter on "animal foods sometimes but not ordinarily eaten," is full of curious accounts of cannibalism, of dirt-eating habits, of odd favorite dishes, and things not generally known on that subject; representing a vast amount of literature.

BOOKS AND PAMPHLETS RECEIVED.

Diseases of Old Age. Charcot. Medical Library, Wm. Wood & Co., 1881.
Practical Normal Histology. By T. Mitchell Prodden. New York, Putnam's Sons.
Diseases of the Eye. By Henry D. Noyes. New York, Wm. Wood & Co. Library, 1881.
Organic Materia Medica. John M. Moich, Ph.D. Henry C. Lea's Son & Co., Philadelphia, 1882.
Nervous Diseases. By A. McL. Hamilton. H. C. Lea's Son & Co. Philadelphia.
Illustrations of Dissections. Ellis. Wm. Wood & Co. Medical Library 1882.
Diseases of Women. Edis. London. H. C. Lea's Son & Co., Philadelphia.
International Encyclopædia of Surgery. Vol. I. Wm. Wood & Co., New York. W. T. Keener.
Sympathetic Diseases of the Eye. L. Manthuer. Wm. Wood & Co.
A Manual of Ophthalmic Practice. Henry S. Schell, Philadelphia. D. G. Brinton.
Essentials of Practical Medicine. Hartshorne. H. C. Lea's Son & Co. Philadelphia. Jansen, McClurg & Co.

Original Translations.

ETIOLOGY AND PROPHYLAXIS OF TUBERCULOSIS. By AUSTIN C. RAMSAY, Chicago.

Tuberculosis is a contagious, infectious, parasitic, non-hereditary disease. This will surely find many skeptics, but such is the view admitted to-day, by many eminent physicians in France and abroad, and is taught at the Paris Medical Faculty, by Dr. Bouchard, professor of general pathology. This view of the matter is destined to make a great revolution in the therapeutics of tuberculosis. We will call attention here to the considerations on which the new doctrine is based, and to the objections which it suggests, then we will look for the practical consequences resulting therefrom.

The most important argument in favor of the contagiousness of tuberculosis, lies in the possibility of transmitting the disease by the inoculation, or ingestion, of tuberculous matter. Although the infectious agent, the tubercular germ, be yet unknown (though Klebs and Eklund thought they discovered in the expectorations and in the lung cavities of the tubercular patients a special microphyte) the possibility of positive inoculation is none the less demonstrated.

To Dr. Villemin's experiments, the results of which were received with scepticism, soon were added Toussaint's experiments. He inoculated into hogs lymph taken from the muscles of tuberculous cows, and blood from phthisical soldiers, and started in the hogs, which are but slightly liable to the disease, well-marked tuberculosis.

The same results were obtained on dogs and rabbits. In the human species, the tubercles are transmissible by inoculation—at

least it seems to have resulted so from experiments made on man by physicians who, happily, are not countrymen of ours. For, not the peculiar circumstances under which they operated, nor the aim in view, would justify such harshness. The contagiousness of tuberculosis finds another important support in cases of acute granular phthisis, which affects the clinical features of infectious fevers, and are remarkable from an anatomo-pathological point of view, by the general spread of deposit.

Tuberculosis is a disease no more confined to man than charbon. It is rather the chief disease of milch cows, especially those kept in stables, which are all naturally tuberculous. Other species of animals are more liable to tuberculosis than man; rabbits, for instance, never fail contracting the disease by inoculation. The number of consumptives, it is true, is great, but it is surprising that man,—living where the microphytes abound, *quærentes quem devorent*, living on the milk and flesh of tuberculous cows, inhaling air infected with the dried expectorations of consumptives,—does not pay a larger tribute to that dreadful disease. The cause of this is that tuberculosis does not always find a congenial soil. But let the human organism be poorly protected, let it be prepared by a diathetic disease,—scrofula, for example, long convalescence, poor hygienic surroundings, physical or mental overwork, poor nourishment, moist climate, impure atmosphere,—in a word, let the microphytes find a poorly protected organism, their receptibility is created, their victory certain and their development most always fatal. But if we admit the contagious nature of the tuberculosis, what becomes of the principle, the clinical dogma, of the hereditary transmission of that disease? This is the weak point of the new theory, and the principal objection against it. Dr. Bouchard has well foreseen it. It is not the contagious disease which is transmitted to the offspring, it is the constitution which remains the same in the father and the son. The child of a man broken down by phthisis, will necessarily be a debilitated being, unable to resist the tubercular infection. The causes of tuberculosis may be divided into two: (*a*) the immediate determining and predisposing cause, residing in the infectious agent; (*b*) the occasional and predisposing cause residing in the morbid tendencies. The prophylaxis of tuberculosis equally comprises

two indications: (*a*) defend the predisposed individuals by hygienic precautions; (*b*) modify the habits of life, change the organic surroundings.

The first point is merely an addition to the ordinary prescriptions of the physician, yet a stranger to the new doctrine (sea voyages, fresh air, avoiding of excesses, etc.) Another recommendation which will seem too severe, and impossible: The careful supervision of the diet of the predisposed to tuberculosis, "the careful exclusion of any milk or meat which may contain tuberculous matter." Since all cows in stabling are tuberculous, this means a complete prohibition of milk and meat, at least in regard to the poorer classes in cities. Who will dare proclaim this, which would prove an arrest of death for so many new-born children?

As to the second point, the aim in view will be attained by living in the open air, by providing for plenty of good food, and taking the proper care of individuals. A beneficial result may also follow sulphur and salt-water baths, which are of a nature to strengthen the constitution, and increase its resisting powers. —*Revue Médicale*, July 2, 1881.

PROFESSOR PIROGOFF, whose death was lately announced, had for many years withdrawn from the active practice of his profession, and had lived on his estate in the country, where he gave his valuable advice gratuitously to the numerous patients who flocked to him from the surrounding districts. In America his name is chiefly known in connection with an amputation at the ankle-joint, in which the tuberosity of the os calcis is left in the heel flap. He was the author of a Medical History of the Crimean War, and of treatises on Orthopædic Surgery, the Surgery of Arteries, and an Atlas of Topographical Anatomy. He was the principal medical officer of the General Hospital in Sebastopol during the Crimean war, and took an active part in the introduction of plaster-of-Paris bandages.

Summary.

RECENT CRIMES.—There would seem to be some reason to fear that the progress of civilization is travelling the course of a vicious circle. Side by side with tokens of intellectual advance and moral enlightenment are to be found unmistakable evidences of the rapid and marked development of exceptionally evil quality in the natures of individuals who have certainly not been left out of the swiftly moving current of progress, but have turned its advantages to their own and their neighbor's injury.

A girl thirteen years of age (Messenger), having more than average intelligence, drowned a child committed to her charge, apparently with no stronger motive than the desire to save herself the trouble of nursing it. A young man (Lefroy) in his twenty-second year, fairly educated, if not in a certain way gifted has elaborately planned and brutally executed the murder of an old man, solely, as it would appear, to possess himself of a small sum of money to supply his immediate necessities. And perhaps for the first time in modern history, a party of young girls barely in their teens, would seem to have organized themselves as semi-professional house-breakers.

These crimes shock the moral instinct of the community, and the manner of their commission, and the bearing of the criminals after detection, occasion astonishment. Let us see whether what we think strange is not, in fact, perfectly natural—that is to say, natural to the abnormal conditions. There have, of course, in all ages and stages of natural progress and social development, been isolated instances of precocious wickedness; but we think it must be conceded, on consideration, that the story of recent crime—

from which we have cited only three of the latest examples—furnishes proof of exceptional depravity.

In truth, without adducing the detailed arguments by which we arrive at this conclusion, it may be suggested that the general effect of our high-pressure method of forcing the growth of intelligence by education, must needs accelerate the development of bad as well as good mental organizations. The sun shines and the rain falls on the evil as well as the good, and the total result must be to produce a sprinkling of preternaturally developed offences and offenders.

The psychologist who studies mind in the light of physiology—and how or where else can it be studied?—knows that it is from the evil tree we get evil fruit, and the stronger the fostering influence brought to bear on the population as a whole, the longer must be the total number of bad fruit-bearing growths which will be brought into prominent activity. Those who regard education as a panacea for all the faults of human nature, must be woefully ignorant of its power and method of working. If it leads out the good, it must also lead out the evil.—*The London Lancet*, February.

ONE UNQUESTIONABLE RESULT OF THE GUITEAU TRIAL.—At the commencement of the trial of Guiteau, there was an almost universal confidence in the popular, as well as in the professional mind, as to the judicial ability of the medical profession to diagnosticate, with reasonable certainty, the character and degrees of mental alienation presented for examination. Such has been the record and the law; such the conviction and endorsement of the medical profession; such the custom and the rule with bench and bar; while the clergy have taken such rulings as absolute, and the people have said it must be so, if the doctors have said so.

What is the conviction of the profession and of the people to-day, after giving the so-termed medical experts a fair hearing, and their testimony an honest consideration? It is that the claimed ability of the profession to determine these questions is absolutely untenable; that their testimonies, when put to the test, have been so different to the evidence expected and assumed, as to make

their claim an absurdity, and to convert their proceedings into an absolute farce.

Some of the "experts" regard insanity as a disease of the mind, the brain being sound. Some assert that insanity is a disease of the brain, the mind being only functionally disturbed. Some that insanity is not a disease either of the mind or the brain, but that it comes from without, and not from within; that it is eccentric and not centric in origin. Some believe in moral insanity. Some declare this claim to be an absurdity.

But this forensic drama as a whole, has been lamentable, pitiable and mortifying. It has made universal skepticism in regard to expert testimony in psychiatry an unquestionable result of the Guiteau trial.—*Gaillard's Medical Journal*, January.

What seems so anomalous in the testimony of the experts looks perfectly natural upon further inquiry. The study of mind, psychology or psychiatry, has not yet had time to become a science. The first work on "Comparative Psychology: Mind in the Lower Animals," by W. Lander Linsay, was published in this country two years ago, and the valuable Works of Henry Maudsley are nearly as recent. Yet, if we wish to study the biological laws which have presided over the evolution of mind in man, no work has ever been written on this subject; nothing but some suggestions made by Herbert Spencer, which assume a more important form in the speculations of Edward B. Tylor in his "Anthropology" just published. So that the assertions of most so-called experts are based on their observation of certain facts, too scanty to give rise to useful generalization, and the more worthless because the observers have no principles to be guided by. It is about time that the diseases of the mind should be studied by the profession, and treated at home if possible.

THE PROGRESS OF THERAPEUTICS.—It seems to be in the nature of scientific study to run for a time in certain special lines, to the neglect of others—first one branch and then another being pushed far out in advance of the general progress of the science, and receiving, for the time, almost the undivided attention of investigation. This has been pre-eminently the case in medicine. Anatomy, physiology, physical diagnosis, and lastly pathology,

have each in their turn almost monopolized the study of those who gave direction to medical thought.

It is only within a comparatively recent period that any systematic effort has been made to do for therapeutics what so many and such zealous workers have been doing for the other departments of medical science.

Medicines are beginning to be classified according to their primary action rather than their secondary results, and the old loose and general designation, such as stimulants, tonics, antispasmodics, evacuants, etc., are giving way to terms expressing the action upon special centres, such as cardiac, vaso-motor, cerebral, spinal, cerebro-spinal, excitants and depressants, etc. We now ask ourselves, not what is good for the disease in hand? but, what are the morbid conditions which find expression in the disease? How far are they capable of being modified by drugs? and lastly, what medicines will be best adapted to effect these modifications? This series of questions shows not only the dependance of rational therapeutics upon pathology, but also that pathology cannot be brought to the aid of therapeutics except through a knowledge of the initial action of drugs upon the several parts of the body. Thus, if our knowledge of pathology enables to determine that there is spasm of the vessels in a given part, and experimentation has taught us that a certain medicine will relax the vessels of that part, we have an exact indication for the use of that medicine such as no amount of merely clinical experience could afford us.

In a general way it has, of course, always been known that emetics act upon the stomach, and cathartics upon the bowels; that the skin is stimulated by diaphoretics, and the urine increased by diuretics; and the use of drugs with the purpose of "stirring up the liver" is as old as medicine itself. But in later times it has been found that this principle of elective action has a much wider range than was supposed, and is much more definite and exact in its application. Thus, the action of ergot upon unstriped muscular fiber makes it much more than a "parturient," and that of aconite, upon the vaso-motor centers makes it more than a simple diaphoretic or febrifuge. The specific action of the solanaceæ upon the third nerve, and of aconitia upon the fifth, of quebracho

upon the respiratory centers, and of digitalis upon the cardiac, are instances in point. Nay, sometimes special branches of a nerve are affected to the exclusion of other branches of the same nerve, as, for example, the twig to the levator palpebræ, which is paralyzed by gelseminum.

The Cartwright lectures by Professor Bartholow, along with much that is original, give an admirable summing up of what has been accomplished of late in this most interesting field (the antagonism of medicines), while Fothergill's little treatise on the same subject is full of valuable information.

Going back only so short a period as twenty years, we have had within that time many new and most valuable medicines added to our list. Among these may be mentioned the bromides, iodoform, chloral, carbolic, salicylic and boracic acids and their compounds, thymol, amyl nitrite, guarana, jaborandi, quebracho, etc. Hypodermic medication with its multiform uses, and rectal alimentation, have been added to our resources within this period.

The use of small and frequently repeated doses, which has been introduced within a few years, seems to have much to recommend t, especially in the case of drugs which are rapidly eliminated. If the action of a medicine is needed at all, it appears more reasonable that it should be sustained at a nearly even intensity, rather than that the field should be occupied alternately by the remedy and the disease.

On the whole, whether we consider the many valuable additions to our list of remedies, or the more exact knowledge which has been obtained of the action of medicines, the outlook for therapeutics is full of promise.—*Medical Record*, Feb. 11.

Necrology.

DR. CASS MASON DODGE, died at his office, corner Halsted street and Archer avenue, of diphtheria, December 20, 1881. Dr. Dodge was born at Prospect Park, Ill., in 1848, he graduated at Rush Medical College, in 1873, and practiced in Chicago for several years. He leaves a wife and two children. He contracted his last sickness from one of his patients, a peril to which each physician is greatly exposed, though the fact is never taken into account by the community.

DR. JOSIAH C. CHURCH, died February 13, 1882, at the residence of his son, Dr. Nelson H. Church, No. 17 Filmore street. Dr. Church was born in New York State, in 1815, received the honorary degree of M. D. from Syracuse University. He practiced many years in Geneva, N.Y., and twenty-two years in Patoka, Ind. Paralysis, the disease of which he died, had confined him to his bed for four years.

DR. JAMES ALLEN MEAD, died at his office, 54 S. Canal street, of typhoid fever, February 16, 1882. He was born in New York State, in 1841, and kept a drug store for sixteen years. He studied medicine in Rush Medical College, and received his degree in 1876. The few last years of his life were confined to practice. Dr. Mead had been rather successful in pecuniary matters, leaving a small fortune to his wife and two young children.

DR. DANIEL S. ROOT, died at his office, corner of Twelfth and Halsted streets, February 23, 1882, of chronic diarrhœa, probably tubercular. Dr. Root graduated in Rush Medical College, in 1867, and founded a large practice which proved very lucrative. He remained single, and died aged about forty.

Selections.

ON SEASICKNESS. By JAMES REGINALD STOCKER, M.B. Lond, M.R.C.P., Medical Officer, Cunard Line.

"Our remedies oft in ourselves do lie."
"*All's Well That Ends Well.*"

In drawing the attention of the profession, and it may be of the public, to this subject, I may state that I have been somewhat perplexed as to the most suitable and convenient means of doing so. The matter, in whatever way it may be treated, whether in a professional, a scientific, or even a popular way, is one of such common interest, people are so bewildered and distracted by the variety of remedies offered to their notice, and so much has been written about it in the daily and weekly journals on both sides of the Atlantic, that I might have been excused had I sought for the publication of my views in some popular journal or magazine. It is, at the same time, of whatever general interest and importance it may be to the public, one the nature of which must eventually be submitted to and determined by a scientific tribunal, and it is this that induces me to bring my own particular views forward at the present time. Some question also has arisen in my own mind as to whether the quotations I have made were quite as appropriate in a professional as in a popular publication. I trust, however, in whatever sense they may be read, they may prove instructive.

But, before proceeding to make any remarks upon the subject myself, I propose briefly to refer to certain statements that have been made by others. Some ten years ago, Professor Barker, of New York, wrote an able pamphlet on seasickness, which is practically an enlargement of a paper published by him in the New York *Medical Journal*, November, 1868. In this pamphlet he

says: "The belief is very general, both in and out of the profession, that the medical art is powerless for the mitigation, relief, or cure of this malady. It is true that there are no specific drugs which will cure or even prevent seasickness, but I believe that every physician ought to be competent to give such good, sensible advice as will greatly contribute to diminish the tendency to this malady, and to mitigate and relieve the suffering and evil resulting from it." He then recounts the opportunities he has had of studying the malady, and adds that he is not sure it "can be called a disease in the proper sense of the word, for the phenomena constituting seasickness are purely physical." What he means by this is not quite clear, unless for "physical" we read "functional." Further on he discusses shortly his own views of the cause of seasickness, and remarks that "no sensible physician would therefore expect to cure seasickness by medication addressed to the stomach, or even by drugs which are supposed to act directly on the brain and its functions. The horizontal position, which to a certain degree modifies this disturbance of function, is the only approximation to a cure." In cases of prolonged seasickness, constant nausea, great nervous depression and sleeplessness, he recommends the use of potassic bromide in scruple doses, three times a day. Dr. Barker has, in my opinion, written a useful little book, for one reason, if for no other, viz., that he has vaunted no particular remedy.

Sometime after the publication of Dr. Barker's views of seasickness, M. Giraldès wrote a letter to the *Times*, lauding the use of chloral hydrate as a preventive of seasickness, which attracted considerable attention at the time, and has found a popular exponent of late in the shape of a patent or proprietary medicine. This letter was published also in the French medical periodicals at the time, the *Union Médicale* and the *Journal de Thérapeutique*, November, 1874. Twenty grains of chloral were taken before going on board, and were to be repeated during the passage (the English Channel) if necessary.

A more recent writer, Dr. Wilson, of Sandown, Isle of Wight, in a book published only last year—"The Ocean as a Health Resort," London, 1880—condemns the whole *posse comitatus* of drugs as useless. He says: "Ice bags to the spine, chloroform,

chloral hydrate, prussic acid, and all the numberless remedies that have been proposed, have been weighed in the balance of experience and found wanting. Some of them," he admits, "may relieve for a time, but they interfere with the natural course of the complaint, and do more harm than good in the long run." A few lines further on he says: "When the stomach is much exhausted by sickness, small quantities of stimulants, especially in an effervescing form, will be found of great service. The best stimulants to take are brandy in small quantities, well diluted with soda water or dry champagne, either alone or mixed with soda water. When ice can be obtained, it may with very great advantage be either taken with the fluids, or allowed to dissolve in the mouth in small quantities at a time."

The Rev. Dr. Cuyler, on the other hand, in a letter published in the New York *Evangelist*, April 21, 1881, says: "Thanks to a free use every morning of Saratoga water and a careful diet, I have not been seasick. The traditional nonsense about warding off this dreaded malady by a liberal use of champagne or toddy ought to be exploded. In this case, too, 'wine is a mocker, and whoso is deceived thereby is not wise.' A good aperient, light digestible food, and fresh air are worth more than all the alcoholic potations ever concocted."

But the great modern exponent of seasickness is an American physician practicing in New York. His experience truly is great, for he appears to have been a great sufferer himself. It is curious to notice, in passing, how Dr. Beard claims to be an authority because he *is* seasick, and Dr. Barker because he *is not*. It is also interesting to observe how a system of treatment which seems almost worthy to be considered as belonging, *par excellence*, to the old school, has originated in a country which may fairly be called the "home of the homœopaths," and has been eagerly adopted, and, sometimes to their sorrow, put into practice by the public. His points are briefly these: That bromide of sodium is a specific for seasickness, that it must be used before the commencement of the voyage, and that it must be taken largely, indeed, excessively. I have examined his treatise in a spirit of careful and candid inquiry, and I must say I cannot but condemn the practice. I have no hesitation in saying that, although Dr.

Beard has been consistent and emphatic enough throughout his book in advocating the use of excessive doses of the bromide, and the necessity of commencing the treatment before going on board ship, he has, not *un ostrich-like*, most effectually and conclusively contradicted himself by a note he has innocently and ingenuously, and apparently for the purpose of confirming his theory, added to his work. This note consists principally of a letter from Dr. Hutchinson, of Providence, R. I., relating to a "combination which proved so remarkably successful. Two gentlemen, one lady, and one child were terrible sufferers with seasickness—the lady being at times delirious from functional cerebral excitement. Into an ordinary tumbler, half full of water, I put ten grains of bromide of sodium, with one-tenth grain of powdered ipecac, sat down by the bedside, and gave a teaspoonful every ten minutes. Inside of an hour all vomiting and nausea had disappeared, and the lady was asleep quietly. When she awoke, although the sea was the same as before, the sickness did not return, and she finished the voyage to Santiago de Cuba pleasantly. The same effect followed in the other cases, and as we were out almost two months, cruising around the island, I had an excellent opportunity to test this remedy. In no one instance did it fail. . . . With, I presume, more experience at sea than usually falls to the lot of physicians, this combination is the first that has proved of the smallest benefit in this contemptible disease."

I would call attention, in the first place, to the grammatical construction of this last sentence, and, in the second, to the complete refutation the letter gives to Dr. Beard's statements. It is needless to descant any further on these last two plans of treatment, except to say that the contrast between them is simply ludicrous. It is chiefly with the object of exposing the inconsistency of these and other like statements, and of calling public attention to the fact, that I venture to quote them. In addition to the popular and elegant preparations introduced of late for the relief or cure of seasickness, we may soon expect to see another, culled from the fertile brains of Dr. Beard and Dr. Hutchinson combined, and called by some such fanciful name as the proprietor may delight in and consider attractive, which may perhaps be

found exceedingly useful by those who possess those two invaluable assistants to the *vis medicatrix*, ignorance and faith.

I shall now proceed to relate my own views about seasickness, and would ask my readers to remember that hitherto I have been speaking of the treatment, about which I intend to make only a few remarks, based upon the results of my own experience and that of competent and trustworthy observers.

There are some diseases, the specific fevers for example, for which there is no cure, nor is it in the course of nature that there should be. But the system, having once encountered them, is, generally speaking, no longer liable to their attacks. The only security against such diseases is either to keep well out of their way, or, by submitting to them, to undergo what may be called a personal experience of them. There are also, it cannot be denied, certain conditions of the body which render it more or less susceptible to the influence of the poisons that engender them. They depend upon age, six, condition, occupation, temperament, habits, and the like. These conditions, when favorable, appear rather to establish a kind of tolerance than to confer complete immunity. When we look around us, we cannot fail to perceive that some individuals appear at times to possess this property; their systems are either acclimatized or accustomed, or from other causes are not susceptible, to them; at any rate, they are free.

We observe a similar kind of tolerance sometimes, indeed generally, acquired by the system with regard to the special senses, particularly in certain occupations. So it is with regard to seasickness. Can we wonder that in this case, too, the system should sometimes become inured or accustomed to the sensations that produce it, and no longer amenable to their influence? Can we be surprised that in certain cases, or at certain times, men should seem to be endowed with the faculty of accommodating themselves to the singular sensations that occur on board ship?

Having said so much by way of preface to my remarks, I may now proceed to discuss the nature or the pathology of seasickness. The pneumogastric nerve is always an interesting nerve to study; in the present inquiry it is an important one: it is the key to the explanation of seasickness! It is the principal nerve of organic life: it governs the heart, the lungs, and the stomach and intes-

tines, as well as other more remote but yet important parts. It may seem curious, but it is nevertheless a fact, that the stomach sympathizes most with the senses—the heart and lungs with the emotions, the ideas, and the intellect. If a powerful stimulus acts upon the mind, it affects principally the heart and lungs; if upon the senses, the stomach is affected. The same may be said of sedatives or soothing influences.

The pneumogastric nerve sympathizes, then, with the senses and the intellect, and plays an active part in that expression of disgust which results in vomiting. We see this thing occur as a consequence of an unpleasant impression upon any one of the special senses—the sense of taste, of smell, sight, hearing, and touch. Stimulation of the nerve, in moderation, favors digestion and the various other processes of organic life; in excess it irritates them. It directly occasions nausea, dyspepsia, flatulence, vomiting, etc.; and, indirectly, all the other sad effects of sea-sickness. The nervous centers, excited by the sensory impressions, become at last so irritable that the introduction of anything into the stomach is resented, and vomiting occurs; until sooner or later the nervous system is dominated by that potent influence for good or evil, the force of habit, and the body finally becomes accustomed to the new sensation.

I have spoken of a difference in the degree of stimulus: quantity. I will now allude to a difference in the kind: quality. There are some sensations that are pleasant and agreeable; others that are painful and disagreeable. It is not by any means always the case that the same sensations produce the same effect—*i.e.*, of pleasure or of pain—either in the same or in different persons —"what is one man's food is another man's poison." In other words, tastes differ; not only in different persons, but also at different times. An odor, *e.g.*, as of cooking, may be grateful at one time, ungrateful at another; a sound agreeable at one time, at another disagreeable. It is peculiarly so in regard to movement. One is sometimes pleasantly affected by a motion which at other times may be quite the reverse, and it always has a different effect upon some people from what it has upon others. I once met a man who said he had crossed the Atlantic eight times

as a bachelor without being seasick; the ninth time he was married and had his wife with him; he was sick the whole way.

The consideration of the phenomena of seasickness has convinced me that the fifth sense, commonly called the "sense of touch," or "common sensation," is a compound sense. By its means we are able to recognize not only touch and its varieties, but also distance, form, size, weight, consistence, relation, and time, and sometimes even color and sound. "The capacity, therefore, of the hand," says Sir Charles Bell, "to ascertain the distance, size, weight, form, hardness or softness, roughness or smoothness, of objects, results from its having a compound function—from the sensibility of the proper organ of touch being combined with the consciousness of the motion of the arm, hand, and fingers."—("Bell on the Hand," 8th ed., London, 1877, page 156.)

Nor is feeling by any means the only sense that is compound in its character, for all the other senses are more or less of a complex nature. Bell, indeed, may have been mistaken in his views as to the "muscular sense" being a sense apart and distinct from the others, for it doubtless properly belongs to the various special senses with which the muscles concerned are connected, the muscular apparatus of the trunk and limbs enabling and assisting them to fulfill their functions just as much as the muscular appendages of the eye, the ear, the nose, and the tongue minister to them.

This, then, is one of the lessons that the study of seasickness teaches us. It teaches us an important physiological fact, that there is in us a sense which, without some such experience, we might perhaps be slow to recognize—the sense of passive motion. It may not indeed be so exalted a sense as others, nor so important, but it is certainly one which in seasickness deserves consideration. And after all it has its pleasant as well as its painful side, when used in moderation; it is the placid sensation that often lulls the child to sleep; it is that of the rocking-horse, the rocking-chair, horse exercise, vehicular motion of all kinds, passive movement of the body in all its forms and phases, only unpleasant, only disagreeable when used inopportunely or in excess.

There is another passage in Bell's work upon the hand (p. 148)

that bears directly upon the matter we have in hand, though from another point of view; it is this: "The nurse will tell us that the infant lies composed in her arms while she carries it up stairs, but that it is agitated when she carries it down. If an infant be laid upon the arms and dangled up and down, its body and limbs will be at rest as it is raised, but, in descending, it will struggle and make efforts. Here is the indication of a sense, an innate feeling, of danger."

Considered in the light of later years, we may perhaps trace in this observation of Bell's an instance of one of the conditions of seasickness. The study of seasickness, as has been suggested, is a complicated study, and not so simple as some appear to think. Much light has been thrown upon the subject at various times and by different writers. Barker refers it to the "sudden and recurring changes of the relation of the fluids to the solids of the body, and the nervous disturbances which result from these changes. . . . The blood by its fluidity yields more readily to the influence of descent and less easily than the solids to the ascending impulse." The *Lancet* in a leading article (Oct. 23, 1875) referred to Wollaston's theory of seasickness, which attributed the symptoms to "cerebral disturbance induced by the repeated mechanical congestion of the brain, which the repeated downward movement of the ship induces;" and showed how inefficient it was to meet the case. Ellis, of Bristol, in the same number, throws out a useful hint as to the necessity of learning to accustom one's self to the movements of the ship. Wilks and Marshall have pointed out the difference of the "pitching and tossing" or "forward" movement of a vessel from the "rolling" or "lateral" movement, and how much more exaggerated it is in one case than in the other, and how much more are its effects. Conditions which these and other observers refer to the falling weight of the viscera, I am inclined to attribute to a cause a little more remote, but produced partly by that agency. I believe that the feeling of nausea, etc., which ensues upon the falling of the vessel is the same as that due to the backward movement of the swing, or of any vehicle, the downward movement of an elevator, vertical or oblique, as well as in the dance and in the infant just referred to; and is brought about by the formation of a partial

vacuum in the lung. To this cause I also attribute the condition known as *mal des montagnes*, which has been well described by M. Lortet, of Lyons ("Comptes Rendus de la Soc. des Sci.," 1869, 2, p. 707), who, by the by, ascribes it to the cooling of the body and the vitiation of the blood with carbonic acid. Dr. Macpherson (*British and Foreign Med.-Chir. Review*, 1876, p. 2. 279) gives a good account of this and other observations on the same condition. He sums up the symptoms thus: Quickened breathing and pulse, and bleeding at the nose, etc., "violent headache, sleeplessness, loss of sense and of memory, mental depression, thirst, nausea, vomiting, loss of power in the limbs. All these symptoms," he says, "remit on rest, but return on renewed exertion. All are not affected alike. . . . The amount of suffering varies in the same person at different times. . . . Those who make the most exertion suffer most. Those who are on horseback suffer less than those on foot. The lower animals are affected as much as man."

We have in seasickness conditions almost precisely similar to these, with regard to the effect as well as to the cause; a certain rarefaction of the air within the chest; a partial vacuum produced, not indeed by the rarefaction of atmosphere itself, but by the subsidence of the abdominal viscera when the vessel falls, and therefore felt more in the upright than in the horizontal position; and the continued movement of the body.

The first, *i. e.*, the want of air, is the cause more particularly of that feeling of "goneness" we so often hear complained of. I have been in the habit of recommending my patients to take a deep breath whenever they feel that sinking at the pit of the stomach, having found it by experience to be an effectual, though not infallible, means of allaying the sensation, and to this I would refer the good effect of singing or of any rhythmic movements that may tend to relieve the mind or to regulate the breathing, as well as the advantage sometimes derived from weight or pressure applied to the stomach by elastic and other belts, or bandages. Only the other day a gentleman told me he had experienced considerable relief by facing the wind and bowing forward when the vessel pitched; so many and so various are the methods men resort to in order to accommodate themselves to the change, as I

think, of the rarity of the air within the chest. The second, *i. e.*, the movement, is the cause more especially of the irritable condition of the nervous system.

The secret of the one is its direct effect upon the pulmonic branches of the pneumogastric nerve, probably the result of partial paralysis. We know that division of the pneumogastric causes vomiting; the nerve is said to exert an inhibitory effect upon the heart; it has the same effect upon the stomach. "The sensation of pain, oppression, irritation of the air passages, want of air, hunger, thirst, and satiety are dependent on this nerve. It has a regulating influence over the functions of deglutition, digestion, circulation, and respiration" (Marshall). It may, however, be due to stimulation of the pneumogastric, for the diminished resistance of the air, according to Liebig, leads to more active elastic contraction of the lung. The secret of the other is its indirect effect upon the same nerve, through the media of the nerves of feeling or common sensation, sometimes indeed through the agency of other senses, as, *e. g.*, by the sight of undulating movements, and by other unpleasant sensations. In each case, practically, the cause is of an eccentric or peripheral character.

I have said that the study of seasickness is complicated; I may now say that I recognize these two factors in its production, viz.: Irritation of the nervous centers by the ceaseless movement and other disagreeable sensations; and the sickening sensation of "want of air." I did think that my views as to the existence of the sense of passive movement being demonstrated in the case of seasickness were somewhat original; I find them expressed, however, some fifty years ago, by Herbert Mayo; and essentially confirmed by physiological writers at the present day. They tell us that seasickness is a sensori-motor act (Carpenter, Marshall), and speak of common sensation as complex, consisting of the sense of touch, temperature, the muscular sense, hunger, thirst, satiety, want of breath, fatigue, exhaustion (Marshall); but it was Mayo who was the first to recognize the fact. The index of his original observations that he gives in the preface to his work on physiology contains the following passage: "Remarks upon impressions of direction and motion; of equilibrium; hypothesis maintained of the dependence of seasickness upon the sense of disturbed equili-

brium." He explains it thus: "There is a feeling attending the sudden beginning or retardation or acceleration of motion, which is independent of the sense of contact excited on one or other of the aspects of the body, and of muscular effort. When one is in a state of equable motion, as when one lies upon the ground (there being then the earth's motion only to be taken into account), or in the perfectly smooth and uniform motion of a boat gliding down a river, we *feel* that we are at rest. Any sudden alteration of the quantity of motion in us we *feel* by the sense of motion. The existence of the same sense may be rendered evident in another manner. After traveling a short distance in a rough carriage (to the city, for instance, in an omnibus), when the carriage has stopped, and you have remained on your seat for a few seconds, if you rise suddenly, you feel, for an instant on two, as if the carriage were still in motion; this is the sense of motion *continuing after the external cause has ceased*, as the sensation produced by a flash of lightning remains in the eye longer than the light itself. It is not easy," he adds, "to say where this sense exists, whether in the muscles only, or in the joints and sinews and integuments, or in the whole frame together."

Another passage in the same work is well worth quoting here: "Nothing appears simpler or easier or more natural than maintaining our equilibrium in standing, walking, running, under common circumstances. Nor does anything appear more natural and easy than the rapid movements of the fingers of an accomplished musician playing on the piano. Both, however, are equally the results of long and at first difficult practice in the use of muscles under the guidance of more than one class of sensation. In maintaining our equilibrium we are principally assisted by the muscular sense. How much the maintenance of our equilibrium is the result of practiced sensation and muscular effort is shown by what happens on going to sea. It is long before the passenger acquires his sea legs. At first, as the ship moves, he can hardly keep his feet; the shifting lines of the vessel and surface of the water unsettle his visual stability; the different incli nation of the planks he stands on, his muscular sense. In a short time he learns to disregard the shifting images and changing motions. or acquires facility in adopting himself (like one on

horseback) to the different alteration of the line of direction in his frame."

Taking all these things into consideration; the exhausted condition of the air, the continual movement of the body, the concussion and congestion to which various organs in the body are subjected, the shaking up of the contents of the stomach, and all the unusual, unpleasant impressions that assail our other organs of special sense—the eye, the ear, the nose, and even the tongue and palate—and knowing that sickness sometimes results from any one of them, we may find it difficult rather to account for its occasional absence than to understand its frequent occurrence.

With regard to the symptoms I shall say nothing. They are tolerably familiar to most of us, and to relate them now would be to little purpose. As to the treatment, I think it lies in a nutshell. As I have said already, I propose merely to make a few general remarks upon it; not to discuss it at any length. If the views I have stated above are correct, the conclusions to be drawn therefrom are simple and obvious. Sedatives, both nervine and also stomachic (for they too will influence the terminal branches of the pneumogastric nerve), anodynes and anæsthetics, among which I include, of course, amyl nitrite, are good. So also are stimulants. Aperients are exceedingly useful. It is necessary, however, in saying this, to state that there are in this, as well as in most other complaints, certain stages or periods: the first, one of great nervous depression; the second, one of gastric and nervous irritability; the third, one of exhaustion. Things which are useful or harmless in one may be useless, and even hurtful, in another.

There are drugs which serve to diminish and even to deaden sensibility—some which serve to fortify and to strengthen it. Such drugs are no doubt of use, of much use, for the relief and prevention of seasickness; but that they are specifics I venture most directly to deny. A person's consciousness or his intellect may be so completely fuddled that he may not know what he is about; but to call that a cure is not, I venture to assert, calling things by their right names. The use of the bromides for this purpose is increasing daily, and I must say that I can not but condemn the practice of using them so indiscriminately and in such large

quantities as has lately been recommended. In the *Medical Record* for July 2, 1881, is a report of a meeting of the American Neurological Association. Dr. W. A. Hammond, of New York, is reported to have said that "he had seen many cases in which acute mania had been produced with bromides, and he believed that there was a stage beyond which bromides could not be continued without producing mental aberration. The cumulative properties of the bromides should be studied more carefully than they had been. He had had four patients die while under the extensive use of bromides under his direction."

But, while I deny that there is any specific remedy or panacea for the disorder, I hasten to acknowledge that many of the conditions may be relieved by medicine. Seasickness, after all, is but a form of passive indigestion, the result of a functional neurosis in which the pneumogastric nerve is either excited or depressed. Like many other functional disorders, if anything is to be done at all for it in the way of medicine, it requires to be *treated.* One is sometimes surprised at the complete failure in some cases of a remedy which in others has proved of great service; and conversely, one is sometimes charmed with the effect of a remedy on some which has failed completely with others. With regard, for instance, to the use of alkalies as stomachic sedatives, one seems sometimes to hit upon by chance, to distinguish intuitively, or rather, perhaps, to learn by experience, what particular drug to use in each individual case. The same may be said with regard to aperients, etc. Thus would I explain the differences and agreements in the opinions of writers who have given the results of their experience to the public.

One cure, indeed, there is, viz.: custom or habit. In the course of time it almost invariably asserts itself, and "use becomes a second nature." The sooner one can accustom or habituate one's self to the altered conditions of things, the sooner will one become a good sailor. The best means of doing so is to forget it, to banish it from one's memory by the substitution of gymnastic and other exercises, and by learning the art of balancing one's self. The more one is able to forget one's self, the more one's attention can be distracted from one's own condition and diverted to other things and other people, the less will one feel the disagreeable sensation

What people want on board ship is resolution, and when the will is not sufficient and moral means have failed, the most effectual, though not by any means the most practicable, is to have recourse to force.

Captain Marryat was of this opinion, as the following passage from "Peter Simple" will conclusively show: "I admired the scenery of the Isle of Wight, looked with admiration at Alum Bay, was astonished at the Needle Rocks, and then felt so very ill that I went down below. What occurred for the next six days I can not tell. I thought that I should die every moment, and lay in my hammock or on the chest for the whole of that time, incapable of eating, drinking, or walking about. O'Brien came to me on the seventh morning, and said that if I did not exert myself I never should get well, that he was very fond of me, and had taken me under his protection, and to prove his regard, he would do for me what he would not take the trouble to do for any other youngster in the ship, which was to give me a good basting, which was a sovereign remedy for seasickness. He suited the action to the word, and drubbed me on the ribs without mercy, until I thought the breath was out of my body, and then he took a rope's end and thrashed me until I obeyed his orders to go on deck immediately. Before he came to me I could never have believed it possible that I could have obeyed him; but somehow or another I did contrive to crawl up the ladder to the main deck, where I sat down on the shot racks and cried bitterly. What would I have given to have been at home again! It was not my fault that I was the greatest fool in the family, yet how was I punished for it! If this was kindness from O'Brien, what had I to expect from those who were not partial to me? But, by degrees, I recovered myself, and certainly felt a great deal better, and that night I slept very soundly. The next morning O'Brien came to me again. 'It's a nasty slow fever, that seasickness, my Peter, and we must drive it out of you;' and then he commenced a repetition of yesterday's remedy until I was almost a jelly. Whether the fear of being thrashed drove away my seasickness, or whatever might be the real cause of it, I do not know, but this is certain, that I felt no more of it after the second beating, and the next morning when I awoke I was very hungry."

I may add that this is a mode of treatment perfectly well known in the merchant service, and found to be of inestimable value even at the very commencement of the complaint.—*New York Medical Journal.*

IN WHAT CASES SHALL THE MEDICAL EXAMINER DECLINE TO VIEW A DEAD BODY? By Medical Examiner ALFRED HOSMER, M.D., of Watertown.*

The medical examiner forms a conspicuous and important element in that vast system of protection which it has been found necessary to establish for the community. In one of his relations to the public he is, but in no menial sense, a servant, and as such he should be willing, prompt and obedient. With this idea in mind I have never failed to report for duty whenever a requisition has been made for my official services. Yet it has sometimes happened that after reaching the place where immediate action on my part was expected, I have been forced to the conclusion that the case in hand not being among those contemplated and provided for by the statute of 1877, I had derived no authority from that act to take cognizance of it, and have therefore declined to hold a view in the legal sense of the phrase.

For instance, one morning a police officer requested me to give immediate attention to a case which had occurred five miles away, in the district of Medical Examiner ——, then absent. At much personal inconvenience I responded to the summons without delay. I found in the custody of the undertaker the body of an elderly man, who, early in the day, while in company with a friend, had died suddenly in the street. Careful interrogation failed to discover any suspicion that the death was not a natural one, and also elicited the statement that the deceased had recently consulted a neighboring physician. The fact that the death had been both public and sudden was assigned as the only reason for calling a medical examiner. Yet a little reflection will satisfy all that neither of these features in that case could be considered *per se* as proof of "death by violence." Sudden deaths

*Read before the Massachusetts Medico-Legal Society.

from natural causes are unquestioned, although their frequency has not yet been exactly determined. Their origin and relations form a subject which deserves a full elucidation before the Society. Public deaths are not likely to be unnatural ones unless they occur under circumstances which plainly show their violent character. There can be no doubt as to the nature of the fatal results that follow a social disturbance, which may exist in any and all degrees, from a simple individual assault to a riot of the largest proportions. There is no difference of opinion as to the kind of death which overtakes the victims of a disaster or awaits those who lose their lives through that agency which, with a careless freedom of language, we are accustomed to speak of as accident.

To return to the point whence this digression started, I sought the physician who had attended the deceased. On the demand of the instant he could not furnish the information I desired. He promised to investigate and report; in a very short time he wrote to me as follows: "Mr. —— had a marked stenosis of the mitral valve; was moderately comfortable with care. I learn that he had been drinking hard a day or two preceding his death." Such evidence as this fully confirmed me as to the correctness of the conclusion at which I had arrived, and upon which I had acted, when, in the presence of the dead body, I had expressed the opinion that the case did not come within the province of the medical examiner. There was no duty prescribed by law that I could perform, there was no service that I was qualified to render, and, rendering none, I considered myself entitled to no compensation, and have never claimed any.

An answer to the question which forms our subject must be obtained from a careful study of the law, of which the seventh section is as follows: "Medical examiners shall make examinations as hereinafter provided upon the view of such *persons* only* as are *supposed* to have come to their death by *violence.*"

What is a death from violence within the meaning of the statute? In a general statement it is one with the causation of which human agency is connected directly or indirectly; through default of a reasonable and necessary precaution; through neg-

*The *italics* form no part of the original law.

[illegible] secure protection against danger known to exist or to be [illegible]; through force, mental, mechanical, medicinal, chemical or toxic, exercised and applied either ignorantly and unconsciously, or under the impulse of excitement, without premeditation or with deliberation and improper purpose. The definition requires some explanation and limitation, and will be better understood if we constantly bear in mind the fact that the high function of the medical examiner is to assist in the detection of *crime against life.* But the location of the line which separates guilt from innocence is fixed by the provisions of statute law. Violence of death has no constant relation to legal prohibition and penalty, and is not confined to the unlawful destruction of life. In deference to the necessity and the right of self-defense the shooting of an unprovoked assailant may receive no sentence of condemnation. Yet such a death must primarily be treated as a violent one, for the true character of the deed can be determined by judicial inquiry alone, and exoneration is attained only with the verdict which concludes the inquest. On the other hand, death by violence cannot be held to include such human agency as that, for instance, which in the form of parental indiscretion has contributed so freely to the mortality of infants. Neither can it mean those deaths which, also traced to a similar origin through what some one might have done but has failed to do in a preventive sense, are often sudden, always premature, accidental as we call them. The child who, for want of attention, is allowed to be drowned in a cistern or scalded to death in a vessel of hot water; the boy who in his carelessness falls from a tree and breaks his neck; the laborer who in perfect health and in pursuit of his daily work receives a heavy blow upon the abdomen and three days latter suddenly passes into a collapse from which he never rallies; the man of business who with hasty and ungarded steps collides with a post in the street and sustains injuries which are ultimately fatal; the victim of melancholy who wanders from home and is lost, and whose remains are found months afterwards with everything untouched except by the process of decay; those who perish by the unmistakable consequences of great natural commotions, such as thunder-storms and tornadoes; not one of these furnishes an example of death by

violence in the medical examiner sense; no one of them dies by the method provided in the easy and uninterrupted order of nature; but on the other hand they do not die through an unlawful course of action on the part of any person.

"Supposed to have come to their death by violence." The word "supposed" imparts a degree of elasticity to the section, and without being intended to exclude those cases which derive a known character from obvious violence, enables it to cover a field the contents of which, as being unexplored, would otherwise be uncertain; and in which either the rights of good personal reputation or the demands of justice require that doubts should be replaced with facts. The term in question seems, at first sight, to be a vague one; it implies a mental process, but carries no reference to the conditions which shall render that process a sound and valid one. We must believe that the word is intended to mean the average opinion of intelligent minds whose conclusions, unmixed with the elements of credulity and timidity, represent the preponderance of well-considered testimony. In addition to this, violence may reasonably be "supposed" in those cases which, though not presenting *prima facie* a suspicious aspect, cannot be proved by a very large probability to fall within the range of the operation of the natural causes of death. Whenever violence is not self-evident but only supposed, it is the duty of the medical examiner, before taking any action, to assure himself that the theory of illegal force commands a plausible support. His position is not a judicial one, yet his decisions may be final. He must judge of the applicability of the law to the case in hand. He must exercise that discretion which takes precedence of learning in the enumeration of qualities which determine the selection of candidates for office. Thus will he aid in establishing those principles upon which must be based every rule of official action, and in teaching the public to understand and accept those distinctions which are of fundamental importance, and which cannot be neglected without endangering his own integrity and dignity, and doing injury to the cause of law and order.

(*Concluded in April Number.*)

NO BACTERIA IN DIPHTHERIA.—(*The Medical Record*, Vol. XXI, p. 150). Dr. R. R. Gregg calls attention to the following facts in regard to diphtheria, and, as he thinks, general misinterretations:

First,—"There is not the slightest difference to be found recorded by the best observers, between the three classified forms of so-called bacteria in diphtheria, namely: spherical, rod-like and spiral, and the three exactly corresponding forms of coagulating fibrin, namely: granular, thread-like and spiral"

Second,—Where blood congests, there fibrin soon commences to coagulate, first into granules; then these join to form fibrils, and later spirals, unless prevented by the attachment of their ends. Lehmann, in speaking of coagulation, says: "The same process goes on in the vessels of the living organism as soon as the blood ceases to circulate." And Wood, in his "Practice of Medicine," says, when speaking of the organization of inflammatory exudates: "As it first escapes it is a homogeneous, transparent fluid, but soon afterward, if examined by a microscope, it is found to contain multitudes of fibrils" and "great numbers of minute granules of different sizes." Thus it appears, according to Lehmann, that in blood which stagnates, as it always does under congestion and inflammation, the fibrin at once begins to coagulate; and according to Wood, under the same circumstances, where observers say their bacteria are found in the greatest abundance, the granules and fibrils of fibrin are found in the greatest profusion. Therefore, "those who claim the presence of bacteria, or vegetable organisms, in the same part where the exactly corresponding forms of fibrin develop rapidly and in great numbers, must show the clearest distinction between these two sets of forms," and the relative proportion of each, or withdraw their claim.

Third,—In diphtheria fibrin is always in excess in the blood, and the false membranes, heart-clots, or thrombi and emboli are formed of it. These cannot be made without first the formation of granules and then the joining of these into threads or rods. Therefore, since these granules and threads must exist in or upon congested and inflamed surfaces, when the corresponding forms of so-called bacteria begin to develop, there is no necessity

for accounting for the presence of granules, threads or rods by regarding them as vegetable growths or bacteria.

The author also criticises the statement of Prof. H. C. Wood, that "the membrane bears everywhere the appearance of little balls about the size of blood corpuscles, either singly or in groups of four or more. When the blood is examined, the white blood-cells are found to contain these micrococci, moving about to the number of forty or fifty in each cell. By experiment it was found that this infinitesimal plant fastens upon the white corpuscles, and multiplies its cells," changing the interior of the corpuscle until it is destroyed, and finally bursting it, and thus setting loose the plants in an irregular mass. "Thus increased, they poison the blood, choke the vessels, and are found in myriad numbers in the spleen and bone marrow, where the blood is manufactured."

The author claims, from a very careful study of the blood-corpuscles under all circumstances, which study has continued through a period of twenty years, that the micrococci which Prof. Wood observed in the white blood-cells are nothing more nor less than the granules which naturally constitute every such cell; and "the little balls about the size of blood-corpuscles," which were observed in the membrane were simply decolorized red blood-corpuscles, distended and made globular by the suppurative processes. Plates illustrating the granular structure of the white blood-cell can be found in "Lehmann's Physiological Chemistry" and T. B. Lippincott & Co.'s edition of "Virchow's Cellular Pathology." The claim that the micrococci or "granules seize upon and destroy blood-cells would seem to be an imaginary and gratuitous assumption." That the blood-cells burst or "melt down," and release their component granules, is true, because they are dead and undergoing disorganization. Until the granules become putrid they do not poison or destroy other tissues.

No observer has yet pointed out the distinction that exists between the granules formed from disintegrating blood-cells and the granules into which fibrin first coagulates. The author claims that the first "lead to suppurations, and possibly to septicæmia, but *never* to false membranes;" while the latter lead "rapidly and directly on to the organization of false membranes and heart-clots. 'The infinitesimal plant found in myriad numbers in the spleen' by Prof. Wood was unquestionably the granules of disintegrated blood-cells, which are sent to the spleen to be still further disintegrated, preparatory to being cast out of the system through the bowels, as refuse matter. Besides, the blood-globules are not made in the spleen, but by the mesenteric glands, and disintegrated by the spleen and liver at the close of their life, whether of old age or disease."

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, March 6 and 20.
Chicago Pathological Society—Monday, March 13.
Biological Society—Wednesday, March 4.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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Original Communications.

ARTICLE I.

IS THE "BACILLUS LEPRÆ" A REALITY OR A FICTION? A Critical Review by DR. H. D. SCHMIDT, Pathologist of the Charity Hospital, of New Orleans, La. Read before the State Microscopical Society of Illinois.

The question whether the pathological changes, observed in the various tissues and organs of fatal cases of leprosy, were originally caused by parasitic organisms, is not entirely new, but dates back to 1870, when Hansen published his first observations on the subject. These observations, however, failed to be generally corroborated by other pathologists, who, also, had ample opportunities of examining the tissues of lepers, until 1879. Neisser directed anew the attention to the subject by announcing that he had discovered a special variety of bacillus, which he regarded as the true cause of the disease. Since that time, the interest taken in the subject by the medical profession has increased, not only on account of a more recent publication of Hansen, in which he claims the priority of discovery of the so called bacillus

lepræ, but, furthermore, on account of the statements of two or three other observers, who also assert having seen the true bacillus of leprosy. During the year 1880, I had opportunities of studying the pathological changes, characteristic of leprosy, in three fatal cases of that disease, without, however, succeeding in discovering those granular masses enclosed within certain cells formerly described and regarded by Hansen as peculiar to leprosy; the later observations of this author, published in 1880, were then unknown to me. The results of my studies I embodied during the ensuing winter in a paper, published in the December number, 1881, of the "Archives of Medicine," and in which I also referred to the former observations of Hansen, while I hesitated to mention Neisser's bacillus for the want of confidence in the material in which he had discovered the organism. Thus matters stood, until not long ago, I read in some American medical journals that the bacillus lepræ had also, been seen upon this continent by Dr. I. Bermann, of Baltimore. This circumstance led me to make a careful re-investigation of the subject, based as in my former studies, upon a very close examination of a considerable number of very thin sections of leprous tissues and organs, treated with the famous bacteria detective, methylviolet. But as the principal object of this paper is to answer as satisfactorily as possible, the question by which it is headed, it becomes necessary to present to the reader some of the data relating to the history of the pretended parasites of leprosy, before stating the results of my more recent examinations, or before reviewing the statements of those observers who regard the pathological changes, characteristic of leprosy, as being caused by a special parasitic organism. For this purpose I shall principally make use of the numerous reports on leprosy, recorded in the "*Jahresbericht ueber die Leistungen und Fastschritte in der gesämmten Medicin*," edited by Profs. Virchow and Hirsch. To give to the reader an idea of the extent of the literature on leprosy, I may say that not less than 183 works and papers on this disease—including the Report of the Royal College of Physicians of London, 1867, which alone represents the facts extracted from 250 private reports—were reported in this great and unique journal since the year 1866. In nineteen of these reports or papers a microscopi-

cal examination of various tisues and organs had been made, though—excepting Hansen, Carter, Neisser, Hillairet and Gauché—none of the authors claim in any way to have met with bacteria in the tissues they examined. I may furthermore state that nearly every one of the authors of the above mentioned 183 reports—excepting again, Hansen, Carter and one or two others—pronounce the disease hereditary and not contagious.

Having satisfactorily introduced the subject by the above remarks, I shall briefly sketch the principal facts observed and relating to the parasitic organisms of leprous tissues, by simply quoting from the reports of the respective collaborators on leprosy in "Virchow and Hirsch's Jahresbericht," beginning with Hansen's first statements regarding the presence of bacteria in leprous tissues, reported in this journal, for the year 1870, vol. I. p. 257. In this report the following passage occurs: "When softening (emollition) of the tubercles takes place, peculiar elements appear, which the author, in his first article, regarded as being specific in nature, but which, in his second article, he attributed to the softening process. The latter may take a rapid course and appear one or two months before death, when all elements will be found disintegrating into fat and detritus; though it may also develop very slowly, in which case these peculiar elements will be met with as products of the retrogressive metamorphosis. With the beginning of the softening, the microscopical sections, show round, oval, spindle-shaped cells, with or without processes, which contain, besides the nucleus, one or more, larger or smaller, round, yellow, granular, small masses, not generally stained by carmine, though some of them may partially imbibe it. Sometimes they appear to be placed in a hollow space, frequently several of them fuse together within a cell, or are placed apparently free, as if escaped from the cells; their size ranges from that of a colorless blood corpuscle, to six or eight times as large; sometimes they fuse together into very irregular masses, exhibiting, frequently, semi-spherical prominences, which either appear to represent agglomerations of small masses, or to be surrounded by a colorless envelope. These masses, varying in their appearance and containing sometimes vacuole-like spaces, are represented by a number of drawings, etc."

In another paper, reported in the "Jahresbericht for the year 1874," vol. I, p. 441, Hansen states his reasons for regarding leprosy as contagious. The following passages occur in the reports: "The inoculation experiments, performed by the author have only given negative results. The author attaches no great importance to the examinations he made of the blood of lepers, but lays stress upon the constant occcurence of the 'brown elements' which he has formerly (1873) described, and which perhaps represents cells enclosing zoöglœa-masses. The culture experiments made with these small bodies—as well as with the rod-like bodies, also occurring in the tubercles—have given no definite results. To determine at present in what manner and by which elements, the disease is communicated, would be impossible."

The next allusion to the presence of parasitic organisms in leprous tissues appears to have been made by Carter in 1875, though there is no mention of his paper in the *Jahresbericht* for this year. The deficiency, however, is made up by a paper of G. Milroy, another known observer of leprosy, which we find reported (vol. I, p. 433) as follows:

"Milroy subjects to a critical examination the more recent views concerning the contagiousness of leprosy; he, especially, opposes the latest views of Hansen and of Vandyke Carter, who formerly was one of the most decided opponents of the doctrine of the communication of leprosy by contact, but who, of late, —led, as it appears, by the observations he made in Norway,— has made a turn to pass over into the camp of the contagionists. Milroy shows how little the facts, adduced by these observers in support of their views, will stand the test, and calls upon Carter, who has fallen a victim to the bacteria swindle, to furnish the proofs for the contagious importation of the disease to Honolulu, upon which he principally bases his view." To elucidate the preceding report I may remark that Carter is one of the most prominent contributors to the pathology and ætiology of leprosy; his observations were chiefly made in the East Indies, where, for many years, he was one of the strongest supporters of the hereditary and non-contagious nature of leprosy, but who, judging from the foregoing report, appears to have been induced by Han-

sen in Norway to embrace the doctrine of contagiousness and bacteria. It is thus that we find in the *Jahresbericht* for the year 1876, vol. I, page 373, his examination of the leprous spots mentioned as follows: "The histological examination of the diseased parts showed the generally unchanged skin and subcutaneous tissue densely infiltrated with a cellular mass, deposited alongside, and enveloping, not only the blood-vessels, but also the canals of the sweat glands, the hair follicles, the subcutaneous glands, and the nerves. Along and distributed between these elements were observed fine granular masses of a dark, orange-brown color, which, striated or aggregated, were, as it appeared, principally deposited along the lymphatics or smaller blood-vessels; upon the addition of acetic acid, a solution of carbonate of potassa, or sulphuric ether, they remained unchanged."

"In a second case of inveterate leprosy, in which the exanthema had appeared, the author had an opportunity to complete the above observations. Besides the before-mentioned pathological products, he found numerous accumulations of small spherical bodies arranged one along the other, the identity of which with micrococcus or zoöglœa masses became clear at the first glance. In dimension, form, and position these masses corresponded to lymphatic vessels, and a further examination showed, indeed, that they were deposited in these vessels, filling them almost completely; here and there the author met with larger empty spaces, corresponding to enlarged lymphatic vessels which had discharged their contents. There was nothing in the appearance of these embolic masses of micrococcus to distingish them from the ordinarily known forms; in the preparation examined they stood in intimate connection with the accumulations of the dark pigmented small bodies, so that, as the author suspects, this fresh leprous eruption has arisen from the remains of the former. The skin and its appendages were found perfectly normal."

The next observations of bacteria in leprous tissues are those of A. Neisser, the report of which, in the *Jahresbericht* for the year 1879, vol. I, p. 334, is as follows: "Neisser, in procuring preparations from leprous cadavers from Norway, found in all the fourteen pieces of skin and tubercles, in the liver, spleen, testicle, lymphatic glands and cornea, baccilli of the following

description: Small, slender rods, measuring in length about half the diameter of a colored blood-corpuscle, their breadth corresponding to one-fourth of their length. They resemble nearest the small bacilli met by Koch (*Ætiologie der Wundkrankheiten*) in the septicaemia of mice, except that they were not so delicate as the latter. They could not be recognized in uncolored sections. Their arrangement corresponded to the place in which they had been developed. They rested either in numbers of two or three, one behind the other, representing an apparently long, sometimes curved thread, or six or seven of them placed alongside of one another in a regular parallel position; or, they formed piles by overlying one another in all possible directions, the individual elements of which could only be resolved by a close examination. In old preparations, that is, in leprous products of later stages, the rods appeared to have separated into granules, which, however, had retained their arrangement in rows. To regard the latter as micrococci the author rejects, but puts the question "whether the formation of granules did not rather signify a formation of spores as a retrogressive metamorphosis?" In the skin the bacilli are equally distributed throughout all layers of the leprous infiltration; in the testicle they formed a dense, easily crumbling mass, filling the seminiferous tubular-like casts, while in the lymphatic glands they were dwelling along the margin. In the ulnar nerves the rods were wanting. Of the two probabilities that the bacilli either existed primarily, or represented only a secondary accident upon a favorable nutritive soil, Neisser inclines to the former, because the presence of this unique variety of bacteria, together with its great distribution, spoke in favor of it; though he is conscious that many clinical observations cannot be made to correspond with the view of leprosy being a bacteria disease."

In the *Jahresbericht*, etc., etc., for the year 1880, Vol. I, p. 388, we meet again with some communications on leprosy from Hansen, the report of which is as follows: "In the introduction to his explanation, regarding the 'Bacillus Lepræ,' Hansen first re-claims, in opposition to Eklund and Neisser, his priority. The statement of the former, that the minute rods, described at different times, could be readily found in the blood, he still—after

perfecting his method of staining—rejects. In preparations of the blood of lepers which had been kept in the moist chamber, however, he found pointed filaments of a specific nature. In ten series of examinations into the microscopical nature of the tubercles, Hansen always could show with greater facility those conglomerates he formerly described—masses of zoöglœa or collections of bacilli enclosed in cells—than to obtain an entirely satisfactory view of the arrangement and form of those rods. They were, however, present in the great majority of the preparations, while the presence of the jointed filaments was very irregular. Only, finally, with the assistance of the more intense (methylviolet) staining, has he succeeded in showing the rods, also, in sections of the tubercles hardened in absolute alcohol. As regards their signification of representing the true infections, or contagious matter of leprosy, Hansen expresses himself with a praiseworthy caution. This time, as before, he never obtained positive results, regarding contagion, by repeated subcutaneous incorporation of the matter of tubercles into rabbits."

In the same volume of the *Jahresbericht* we also find reported an observation, made by Hillairet and Gauché, concerning the presence of bacteria in the blood of a woman who had lived in the Cordilleras, before she came to Paris. I omit to cite this observation on account of its apparent unreliability.

In the *Medical News* of January 7, 1882, a communication from a correspondent in Baltimore to this journal will be found, which, for the purpose of referring to some special data it contains, I shall quote in full, as follows: "The Bacillus Lepræ.—The recent descriptions of Neisser, Eklund, and others, of the bacillus lepræ, first observed by Hansen, have awakened widespread interest in the pathology of leprosy. Dr. I. Bermann, of this city, has been able to detect the presence of the bacillus in leprous tissue, and to confirm the discoveries of the above-mentioned authors. Sections exhibiting the bacillus were shown at a recent meeting of the American Dermatological Association at Newport. Since then Dr. Bermann has improved his methods of preparation and investigation, and is now able to demonstrate the bacillus to perfection. His results were shown at a recent meeting of the Baltimore Clinical Society. The directions given

by Neisser for detecting the little organisms enable one to recognize them, but not with satisfaction. Weigert's method for investigating bacteria answer the purpose perfectly. The affinity of the bacillus lepræ for the aniline violet staining fluid is remarkable. By immersing the stained sections in oil of cloves for 48 hours, the violet color is removed almost completely from the tissues, leaving the bacilli stained dark purple and presenting sharp outlines. It remains very difficult to see them, however, even after this preparation, and objectives of high power (with small angle) must be employed. By using as a condenser, an objective of about one-quarter inch, for illumination, they come out with splendid definition. The bacilli are mostly to be found in the protoplasm of the cells, but may be seen elsewhere. Sections thus prepared and examined will satisfy the most incredulous. Dr. Bermann has been the first in this country, we believe, to detect the bacillus, and will shortly publish his observations in full."

Postponing for the present the review of the above-cited observations of Hansen, Carter, Neisser and Bermann, I shall first proceed to state the results of my recent examinations of a considerable number of sections of different leprous organs. These sections were cut during the summer, and following fall and winter of 1880, and since that time kept in a mixture of alcohol and filtered rain-water—50 per cent. of each—affording the sections, as may be readily understood, every opportunity of being invaded by bacteria, bacilli, or other fungi. A number of them, representing the skin, epiglottis, liver, kidney, lymphatic glands, supra-renal badies, etc., etc., were put into a strong alcoholic solution of methylviolet, half diluted with water, and left there for about sixteen hours, so that, when removed from this solution, they were found intensely stained; others, put into a watery solution of methylviolet, were found equally stained. After their removal from the staining fluid, the sections were put, first in commercial, and then in absolute alcohol, which caused them to part with the methylviolet they had absorbed almost entirely. Nevertheless, in order to follow closely Dr. Bermann's directions, they were then put in the oil of cloves—for which, however, very little color had remained to be extracted—and left there (unnec-

essarily) for from 24 to 48 hours, to be finally mounted in Canada balsam. In subjecting these sections to a close microscopical examination, I failed, notwithstanding their remarkable thinness and transparency, to detect even a single bacillus. The only parasitic organisms met with were an inconsiderable number of patches, or so-called zoöglœa of micrococcus, thoroughly stained by the bright blue of the methylviolet; but these, even, were principally confined to the sections of skin taken from the lobules of the ear from the first and third cases. The most of these patches were small, and ellipsoidal, or spindle-shaped in form, the smallest corresponding in size and outline to the larger or smaller spindle-shaped cells met in the corium of the skin, while the larger ones were generally composed of a number of the former, either placed one behind the other, or, in some instances, overlapping one another. In most instances, the long axis of these ellipsoidal, or spindle-shaped zoöglœa, was placed parallel with the surface of the skin, or with the course of the connective tissue bundles of the corium, though others were observed placed obliquely, or, also, to present irregular outlines. A few larger patches, round or oval in outline, and corresponding to the shape of a transverse, or oblique section of a larger vessel, were likewise met with. In all these patches of micrococcus, however, the individual micrococci could be distinctly recognized, particularly by their bright blue color, contrasting with the very feeble picrocarmine staining of the sections; the original structure of the latter showed as perfectly as 15 months before, when the sections were cut. In the skin, taken from the second case, no trace of micrococcus, even, could be detected.

But, as regards the micrococus-zoöglœa observed upon the sections of skin, it must be remarked that they were only found upon the corium of the skin on one of the lobule, the other side being perfectly free, and, by alternately changing the focus, it was furthermore found that the patches of micrococci rested almost always upon one, or the other surface of the section; in a few exexceptional instances, only, the minute patch appeared to pass into the section. But, even in these instances, a closer examination revealed them deposited in some interspace of the connective tissue-bundles, or, in a vessel laid open by being cut in an

oblique or longitudinal direction. The ellipsoidal, or spindle-shaped form, which, perhaps, the greater part of these patches or zoöglœa, presented, was very probably caused by the settling of the first individual micrococci upon one of those numerous spindle-shaped cells, met with in the corium, or upon a connective tissue bundle very obliquely cut, in consequence of which the patch, arising from those first settlers, finally assumed the form of the host upon which it grew. In the same manner, the colony may, in other instances, have assumed the form of a vessel by having settled and grown into the lumen laid open by the knife. Those zoöglœa of a round or oval form, generally larger in size, and by their greater thickness less transparent, were most probably deposited in the transversely, or obliquely cut lumen of a large vessel. Now, whether the ellipsoidal, or spindle-shaped forms of the patches were really determined by the causes I have pointed out above, or whether the latter assumed these forms independently of these circumstances, I would not positively assert, though the explanation I have offered appears to be the most plausible. Neither do I deem it necessary to further speculate, in this place, as to the cause of the irregular forms, or those patches placed obliquely to the course of the fibrous bundles of corium; though, before dismissing the skin, I repeat: *that in no instance did I ever observe micrococci lodged in the interior of any of the cells*, notwithstanding the sections being sufficiently thin to have shown the parasites, even without staining.

The next, and only remaining instance, in which I met with micrococci, was in a small number of empty uriniferous tubules, contained in some exceedingly thin sections of the kidney taken from the first case. In these tubules, represented only by the basement membrane, the layer of micrococci, if such they were, was very thin, and presented a very faintly-colored appearance, so that the question may still be asked, whether these faint, granular masses might not represent degenerating, granular, urinary cylinders. At any rate, the tubules had been laid open by the knife, affording an opportunity to the parasites to found a colony in the lumen of the former. In these sections, also, not a trace of a bacillus form could be discovered.

Finally, the exceedingly fine filaments of a fungus, about $\frac{1}{1600}$ m.m. in thickness remain to be mentioned; they were observed to spread *over* some sections of tongue, liver, kidney, and lymphatic gland, but in no instance entered the tissue; on the contrary, in order to render these filaments distinct, the objective had to be adjusted so far away from the section as to bring the histological elements of the latter entirely out of focus.

It appears to me almost superfluous to enlarge to any extent upon the signification of the presence of the micrococcus-zoöglœa, or upon that of the fine fungous filaments, found, as stated above, upon some of the sections, for it is obvious that they are deposited after the latter were cut. And, in regard to the fungous filaments, I hestitate not to to say that, being very readily stained by hæmatoxylin, I have observed them well enough during my first examinations in the pathology of the disease—but, knowing, at that time, that they bore no relation whatever to the tissues I was then studying, it never entered my mind to create a sensation by mentioning them in my paper. At what particular period of the process of preparing the sections they found their way upon the latter, I am unable to say, but it must be known to every practical histologist that solutions of carmine, or of hæmatoxylin, do frequently attract fungi, and that, in the above case, the germs may have settled upon the sections while lying in the staining fluid, or, subsequently, in the mixture of alcohol and water, in which I generally preserve my sections before they are wanted. The micrococci, found upon the sections which I recently examined, may have been deposited since the time of my first examination—that is, while they were kept—each kind of section in a separate bottle—in the alcoholic solution. This becomes the more probable in calling to mind the sections of skin, upon which the micrococci colonies were only found deposited upon one-half of the surface, for the reason that the other half was very likely protected by another section lying upon it.

In summing up, now, the above stated results of my recent examinations of leprous tissues, we find that in these three fatal cases of leprosy, which came under my observation, the "Bacillus lepræ" could not be found, a circumstance which justly entitles us to entertain serious doubts as to its real existence. But

before further commenting upon the subject, let us review the statements of those observers who claim to have beheld this parasitic organism. Thus, in referring to the statements of Hansen, made 1870, and cited in the beginning of this article, it will be noticed that the "peculiar elements" appearing in the course of the softening of the tubercles—and which this author formerly regarded as specific in their nature—he now attributes to this process, and regards them as products of a retrogressive metamorphosis. The granular masses to which he refers, and which he describes as not generally stained by carmine, though some of them may partially absorb it, I am inclined to identify with those large groups of more or less degenerated neoplastic cells, originally derived from the nuclei of the fat-cells, and replacing the latter. These groups are mostly found lying free in the areolar spaces of the corium, or subcutaneous connective tissue, and, in accordance with the degree of degeneration which they have undergone, either absorb or refuse the carmine. In my paper on the pathologicel anatomy of leprosy, I have sufficiently described the groups of cells, but have, unhappily, omitted to mention certain collections of very fine, slightly curved and sword-shaped crystals of margaric acid which I observed in many of these degenerating, compound cellular bodies. These crystals, though easily recognized, might nevertheless, in sections not stained with hæmatoxylin, or methylviolet, be taken for bacilli. In many of these cellular masses some of the nuclei are still observed, especially if the preparation has, after the picro-carmine staining, been feebly stained with hæmatoxylin, such as I have indicated in my paper. In other instances the nuclei have entirely disappeared by the advanced degeneration of the cells, and nothing but the fine irregular outlines of the latter are left, the whole mass being stained yellow by the picric acid.

There are no special remarks to be made upon the statements of Carter, as they clearly show that the minute organisms which he observed presented—as he states himself—nothing to distinguish them from the ordinarily known forms of micrococcus. Though I know nothing about the manner in which Carter preserved and prepared his leprous tissues, I nevertheless presume that his micrococcus lepræ—if such we may call it—is identical

with the one which I met in my recent examinations, and may be traced back to the same origin. The former observations of Hansen with those of Carter, therefore, do not present the slightest fact to justify the theory of the parasitic origin of leprosy.

In reviewing the observations of Neisser, it appears from his description that he had real bacilli under his microscope. The presence of these organisms in the leprous tissues which he examined, however, loses very considerably in significance by a consideration of the manner in which he procured his material, as we do not know how many hours after death these tissues were removed from the cadaver, and how many chances they had of being invaded by bacilli, before they even reached the hands of the investigator. But in comparing the statements of Neisser with the more recent observations of Hansen, the probability of the presence of bacilli in the tissues they examined gains somewhat in strength, though I am still far from understanding how these organisms made their way into the interior of the cells. The statement of Neisser that in leprous products of later stages the bacilli should have resolved into granules—which, having retained their arrangement in rows, he regards as spores—throws much doubt upon the exactness of his examinations, for it is clear that these granules represented sphero-bacteria, such as they are often observed in the vicinity of micrococcus-zoöglœa. The same may be said of the dense, crumbling masses, filling up the seminiferous tubules like casts. On the whole, Neisser's view, that the presence of these organisms in the leprous tissues is primary, certainly rests on a very weak foundation, rendered more apparent by his acknowledgment of being conscius that the clinical history of leprosy cannot be brought into harmony with the prevailing bacteria theories. Hansen's observations, on the other hand, appear to be more trustworthy, as he freely acknowledges the existing defects of the observations, stating, for instance, that he could not obtain an entirely satisfactory view of the arrangement and form of the rods; the presence of the rods in the blood of lepers he positively denies. The observations made on blood kept in the moist chamber I regard as unreliable, for the reason that the minute organisms are found everywhere,

very frequently in places where no account can be rendered for their presence. The various attempts made by Hansen for the purpose of producing the disease in rabbits by inoculation of leprous matter, have, as we have seen, also failed.

Finally, in the report of Dr. Bermann's observations, regarding the existence of the bacillus lepræ, we meet with the same flaws as in those of the preceding observers. The very confession, made in this report, that even with the methylviolet staining, it still remained very difficult to see the bacilli, and that an objective of high power with small angle must be employed, renders the whole observation doubtful; for I may safely assert that if the bacilli are really present in the section, and the latter is sufficiently thin, they can be distinctly seen—particularly when stained with the mithylviolet—even with an amplification as low as from 300 to 350 diameters. Neither is it necessary to employ a condenser, for a good mirror with a clear, bright daylight, and a small diaphragmatic opening closely applied to the object, will answer all purposes. The only essential condition is that the sections be sufficiently thin to be rendered perfectly transparent. Anyone interested in the subject may convince himself of these facts by putting a small quantity of hay into a wide-mouthed bottle containing water, and setting it aside in a warm place. After the lapse of a few days a delicate pellicle will appear upon the surface of the solution, and, if a drop of the latter with a minute portion of the former is examined under the microscope, bacteria and bacilli of various kinds will be met with, and distinguished without difficulty, with the powers I have mentioned. To render them, however, still more distinct, a drop of the solution may be spread upon a glass slide and left uncovered until nearly evaporated, when a drop of a solution of methylviolet is put upon the residue, and a thin cover-glass made to rest lightly upon it. Before long the organisms will have absorbed sufficient staining material as to appear still more distinct under the microscope. Thus, it will be found that the detection of these minute organisms is by no means as difficult as some enthusiastic germ-theorists represent it. In fact, there are many objects met with, both in normal and pathological histology, the nature and rela-

tionship of which are much more difficult to determine than to recognize a bacterium or bacillus.

But let us return once more to the bacilli met with in the leprous tissues by the above-mentioned observers, and, while admitting the truth of their statements, ask for the signification of the phenomenon, or its bearing upon the origin of leprosy. There is no other answer to this question, but a simple denial of any relationship existing between these organisms and the original cause of leprosy, until they can be shown in the blood of *every case* of this disease, and, more, *in such numbers* as to render their noxious influence upon the human organism evident. We may furthermore ask an explanation for the total absence of bacilli in the numerous sections—taken from the organs of three typical cases of leprosy—which I examined, even with the assistance of the bacteria-detective, the methylviolet. The discrepancy existing between the results I obtained myself and the statements of the above observers, can only be explained by either presuming that some mistake has been made on one side or the other, or by supposing the bacilli to have entered the tissues from without. The latter may take place through an ulcerated tubercle, or by the deposition of some of the organisms upon the sections in the manner I have explained above; or, also, the bacilli may have found access into the pieces of tissue after these were removed from the cadaver and before the cutting of the sections; this supposition is applicable to the tissues Neisser had before him. There are a number of ways by which bacilli may enter the tissues, leaving aside the possibility of these organisms arising as products of the disease in the living tissues themselves, a view which does not lack supporters. At any rate, the tissues which I examined were tolerably fresh, the autopses having been made but a few hours after death.

In conclusion, I may say that the opposition, taken by me in the above review against the theory that leprosy is caused by minute parasitic organisms, is not based upon pre-conceived notions; on the contrary, I am far from denying the possibility of bacilli causing certain diseases, as, for instance, splenic fever, though here, it must be remembered, the bacilli are found in the blood itself, or to obstruct the smaller blood-vessels and lymph-

atics in the form of emboli, while, as far as I know, they have never been observed in the protoplasm of cells. But admitting, even, that such a phenomenon actually presented itself in leprosy, its explanation, that is, the way by which these organisms entered the interior of the cells, would still remain obscure unless we take recourse to the supposition that they originated in the protoplasm itself. Excluding, however, their origin within the tissues, there remain only two ways by which they could enter the human organism; these are, either through an open lesion, or by entering the blood through the lungs or alimentary canal; and, it is not at all improbable that in some instances they may enter through an open lesion, especially at the time when the tubercles commence to undergo softening and ulceration, such as Hansen has stated. Their presence in the blood this author has repeatedly denied. In my own examinations I have never observed the slightest trace of a bacillus in the smaller blood-vessels, notwithstanding the sections examined were sufficiently thin for recognizing with the greatest distinctness the blood-corpuscles contained within. Besides, the clinical history of leprosy is so well known that I may refrain from further showing the difficulty of making the characteristic symptoms of this disease harmonize with the bacteria theory; in every instance where bacteria or bacilli are really met with in the tissue it must be presumed that they arrived there by accident and in search of a nutritive soil for their development. But as it is desirable that the truth should be ascertained, and as I fortunately still have numerous sections of various leprous tissues—kept in alcohol and water—on hand, I shall be pleased to furnish, upon application, a number of them to any competent pathologist, who would like to investigate the subject with the view of publishing the results of his examinations.

A number of microscopical preparations taken from each of these cases, accompanied this paper.

Dr. Schmidt requested that a committee be appointed to examine them in order to determine whether they would substantiate the statements which he had made concerning them. The

following committee was therefore chosen, who reported as follows at the meeting of the society:

"The committee appointed for the purpose would report that they have examined the slides accompanying Dr. Schmidt's paper, and would say that they have been unable to find any bacilli in them. The slides appear to agree in every respect with Dr. Schmidt's statements in regard to them.

"LESTER CURTIS, M.D.,
"Prof. of Histology, Chicago Medical College.
"JAMES NEVINS HYDE, M.D.,
"Prof. Dermatology, Rush Medical College.
"CHRISTIAN FENGER, M.D.,
"Pathologist to Cook County Hospital."

ARTICLE II.

MEMBRANOUS DYSMENORRHŒA. By I. STROINSKI, M.D. Chicago.

It is a rather difficult task to throw light upon this hitherto obscure disease, and it is my endeavor to write only after careful investigation of the sympathetic nerves of the abdominal system, a problem not very easily solved. My clinical observations of this disease have been extended. During a course of travel on both sides of the ocean, I have had the opportunity of making more examinations than many other physicians.

Virchow first endeavored to explain membranous dysmenorrhœa, and he called the product of the womb, the expelled membrane, "decidua menstruations;" a name maintained up to this day. He considered the process as a desquamative one, similar to that of the skin, and originating from a proliferation of the cellular tissue. Hausmann * declared the disease to be a "retrogradation of the germinal layer," in the sense of Darwin, and he thought the development of the membrane to be equivalent to that in pregnancy. Clarke and Williams opened a wider field; they proved the protuberances on the outer layer of the

* I would call the attention of R. Barnes, in London, and other authors, to the views of Hausmann, changed already in 1871, and given in the *Zeitschr f. Geburtsh* (Band I, Heft II.)

membrane to be elongations of the utricular glands, and taught that the membrane was in the same state of development as in pregnancy. Engelman and Kundrat enlarged upon these views by proving that the process was that of fatty degeneration, but they were mistaken in assuming the membrane to be in the same state as in pregnancy. Wyder has undoubtedly proved that the cells of the cellular tissue are in menstruation and membranous dysmenorrhœa different from those in pregnancy.

I had the opportunity of making experiments on the sheep on a large scale some years ago. Here the left spermatic ganglion is easily exposed while situated on the outer margin of the peritoneal duplicature, and it is easily separated by paring it from the adjacent spermatic vein and artery. Pressure (with a small clamp) on the ganglion excited the ovary, and the uterine membrane discharged a considerable quantity of a clear mucus. By continued pressure the blood-vessels of the ovary enlarge, and the ripening follicles swell, the uterine vessels enlarging but to a small extent, and the glands pouring out a considerable amount of mucus. A mild galvanic current, the positive pole inserted into the ganglion, the negative pole either into the trunk of the plexus or into the uterine membrane, excites the membrane to that state called irritation, and described below. A strong current causes all the incidents described below as continued irritation. Resection of the ganglion and a part of the spermatic plexus bring forth the most copious discharge on the opposite side of the uterine membrane, which is only surpassed by the discharge of fluid into the intestines after the resection of the mesenteric plexus.

Free phosphorus, applied either in the form of a paste or as a vapor, to the exposed ganglion, acts as a powerful agent on the nerves and the uterine membrane. After the application of the phosphorus to the ganglion, the adjacent parts being protected by waxed paper or cloth, the nerves will be found to be changed so that the axis cylinders look like hard cooked albumen, the uterine membrane being in the same state of fatty degeneration as in membranous dysmenorrhœa. The effect on the uterine membrane can be seen after ten minutes' action of the phosphorus vapor, but the operator has to be very careful not to come in contact

with the vapors from the iron bottle. The fatty degeneration evoked by the phosphorus vapor will be partially restored to the normal state by applying a mild galvanic current to the ganglion and the uterine membrane. By applying the vapor to the uterine membrane, there will be seen a degeneration of all the sympathetic nerves supplying the uterus, and the degeneration in the spermatic plexus will reach the point of connection with the renal nerves. The application of phosphorus has been, in my hands, the only means of detecting a degeneration of the sympathetic nerves visible under the microscope, and I must assume that phosphorus-poisoning by the stomach acts directly upon the gastric sympathetic fibers, which by reflex action causes those lesions in the body found in phosphorus-poisoning; the blood dissolving the phosphorus to so small an extent as to be uninjured. The casting off of the uterine membrane in cholera will appear not so marvelous when it is remembered that a sudden reduction of the temperature in the lower parts of the body affects the intestines so as to cause diarrhœa.

In irritation, from whatever cause, the uterine membrane undergoes the same anatomical changes as does every other nutritive membrane. The epithelial cells of the utricular glands, which are of a columnar ciliated form, and which enclose a large nucleus of lucid appearance, containing prepared mucus, discharge the mucus, and the nucleus is restored by immigration of coarse granulated protoplasm. In continued irritation, the supply of protoplasm is not sufficient, and other substances, such as fatty matter, enter the cell, but the latter not being able to assimilate (digest) these substances, they are thrown out, and there is but an empty shell; the cell is dead, and will be thrown off. The epithelial layer of the utricular glands is lined by a basement membrane of a protoplasmic character, supplying the epithelial cells. It disappears (is devoured) by continued irritation. The epithelial tissue of the membrane itself plays a rôle similar to that of the glands. The cellular tissue of the utricular glands consists of small round cells, filled with a protoplasmic nucleus, the latter containing mucus in a state of rest. These cells discharge the mucus in a state of irritation, and they fill with protoplasm; but in continued irritation the protoplasm contracts, and the

empty space is filled with other material, mostly of a fatty kind. The intercellular tissue of the glands takes on an inflated appearance, and causes the enlargement of the glands. But there are some small ovoid cells interspersed between the round cells, and they take no part whatever in irritation, but in gestation they emigrate, multiplying in a marvelous manner, take on a rounded shape, and form the greatest part of the decidua serotina.

The cellular tissue of the membrane itself undergoes a change similar to that of the utricular glands, but there is no prepared mucus contained in the cells. In irritation this tissue takes a negative part, but by continued irritation the protoplasm is partially discharged, and the cells fill with a turbid matter and oily drops; the intercellular tissue being swollen to a considerable degree. The highest point of fatty degeneration, that of induration, will be reached by phosphorus-poisoning and in membranous dysmenorrhœa. Here the epithelial tissue is changed to a lamellous, leather-like structure; the intercellular tissue to a true fibrous substance; the cells of the cellular tissue, in the glands as well as in the membrane itself, are filled with oily matter, or their contents thrown out entirely; the glands are very friable, and only the lower part of the glands, imbedded in the uterine substance, is in a healthy state. The blood-vessels of the upper layer are contracted so as to contain no blood; the membrane in its upper layer is dead.

From all my investigations, the full details of which cannot be described in these limits, I have formed the following theory of menstruation in general, and of membranous dysmenorrhæa in particular:

I consider it to be a law of nature that in every living individual, in plants as well as in animals, there are developed at certain times and at certain places one or more distinctly formed cells, which, mostly after impregnation by another but differently constructed cell of the same or another individual of the same species, develop an individual similar to that from which it is the offspring. The development (ripening) of the cell (ovum) before impregnation, I regard as a factor *per se*. This development (ripening) of the cell (ovum) reproduces in the affected individual a series of varying changes in the adjacent parts

(genital apparatus). These changes are always dependent upon the presence of a ripening ovum. In all the mammalia, including the human female, these cells (ova) are implanted from the epithelial germ layer, and each of these very numerous epithelial cells is capable of becoming a new individual. But nature dispenses her gifts in abundance, and thus but a small quantity of the ova ripen, and but a very few come in contact with the elected spermatozoön to form the zoösperm, *i. e.*, the new individual. The ripening ovum causes a proliferation of the epithelial tissue in the Graaffian follicle, with serous exudation into the same. The Graaffian follicle enlarges, and by its growth the ovarian nerves will be irritated. The growth continuing, the uterine fibers will be irritated by reflex action, and there will be a discharge from the uterine glands; the ovum prepares thus its food, the uterine milk, which is necessary for the developing impregnated ovum. In all the mammalia this process is always the same. But in the woman, endowed with a very sensitive system, nature makes an occasional *faux pas*. The continued irritation of the lower sympathetic system excites the upper part, and finally an over-stimulation of the vaso-motor center. The uterine blood-vessels become enlarged by the paresis of the vaso-motor center; they form ecchymoses and burst. Thus the original process is rendered indiscernible. Sometimes the sympathetic system at large is in a hyper-sensitive state, so as to excite the capillaries of other membranes (skin, bronchial membrane, conjunctiva, etc.), which will burst and discharge the blood from these places, in which a good Catholic may discern his "saints." The uterine membrane is decidedly of a nutritive character, the glands supplying the uterine milk for the impregnated ovum, the winding course of the blood-vessels being instituted for nourishing that part of the body which becomes a new individual (embryo).

The menstrual process in all the mammalia and the beginning of menstruation in women bear a striking resemblance to digestion, the minute anatomical changes in the uterine membrane being the same as in the gastric membrane, and I regard menstruation at large as a nutritive irritation excited by the reflex action from the irritated ovarian nerves. But in women nature makes a second *faux pas*. The uterine nerves

being over-irritated and the glands being exhausted, there appears a fatty degeneration in the uterine membrane, so as to cast off a part or the whole membrane. But here we must find the limits between the physiological and the pathological state; between health and disease, by the clinical history.

It has been my lot to register in the last twelve years, while practicing in both hemispheres, thirty-five cases of membranous dysmenorrhœa, a number which seems to be incredible compared with the reports of others. But I must add immediately, that in fourteen of these cases the membrane has been cast off but once, with all the symptoms of an acute attack, the most cases occurring in the country. That the cast-off membrane was not an abortive decidua the following phenomena would teach me, but the microscope has always been my resource in detecting the characteristic form of the cells.

In a mill situated in a low valley, bordered by high mountains, where in every spring the valley was overflowed for weeks, I have seen three servant girls suffer from the disease, the lady of the house also suffering from it for fifteen years. I will relate one of these cases, the first to occur in my practice.

This servant had been delivered six months previously of a still-born child, the menses reappearing six weeks after the confinement. In scrubbing the front steps of the house in winter time, with bare feet and unprotected limbs, as is the general custom among the laboring women in Germany, she took cold, and had a slight fever in the night, with a chilly sensation creeping from her feet up to the abdomen, but the next morning she was quite well. In the next menstruation, there came on intense pains in the suprapubic region, which lasted for two days, followed by the expulsion of a membrane, and then a considerable flow of blood set in. The membrane was instantly recognized by the lady of the house, and I examined the girl and the membrane. There was no inflammation either in the meso or endometrium, and the uterus had the normal size. The ovaries were normally situated, and without pains. The membrane showed the well-known bag with the serrated opening on the os internum and the orifices of the Fallopian tubes. The openings of the glands were visible with the naked eye, [illegible] had the mosaic-like appearance

resembling the eye of an insect. Not being acquainted with the treatment of the disease at this time, I dismissed the girl. Two years later I saw her again, with a baby on the arm. She had had the same phenomena as long as she served in the mill (for six months), but by removing to a village in the mountains, the membrane slowly disappeared, and her lover having come home from the war, she married and became pregnant.

A very different course was that of another case. The only daughter of a wealthy farmer in Iowa went to a party, where she danced all night. In going home (about one mile) the girl took off her stockings and shoes, her feet being sore from the dance, and walked home barefoot. When in bed she felt a cold sensation extending from her feet to her bowels, and a fever set in, which lasted but a few hours. She rested the next day, and then went to work as usual. At the time of the next menstruation she awoke with terrible pains in the suprapubic region and in the bowels, which lasted for three days. The mother of the girl feared that something was the matter, but I could assure her that the girl was a virgin by removing the membrane from its place under the well-developed hymen by a pincette. The same symptoms reappeared with the next menstruation, and after four months the formerly healthy and well developed girl began to fail. There appeared red spots * on the chest and back, which were sometimes of the same intense color as in scarlatina. Contractions of whole groups of muscles set in, and the girl was hysterical and anæmic. A tour to the South relieved her somewhat, but after staying home for a short time the same phenomena reappeared. The hitherto refused local treatment was now accepted; one electrode inserted into the cavity of the uterus—the thick hymen being excised—the other alternately on the right and left ovarian region. A mild galvanic current was applied every second day. The next menstruation appeared without intense pain, and there were thrown off only small pieces of the membrane. The treatment was continued for four months, and the girl restored to her full health. She has married since, and borne children, without any relapse of the disease.

* Cohnheim, at Berlin, described these spots in a recently published paper, and he thought, from the same spots appearing in hysterical persons, the disease to be an offspring of hysteria.

A very remarkable course was taken by another case in one of our suburbs. An Irish woman suffered from membranous dysmenorrhœa for eight months. Alternately with the expulsion of the uterine membrane there were separated from the bowels, mostly from the colon, large pieces of mucous membrane under the same intense pains. After I had treated her but a few times, she took sick with a true erysipelas faciei (erysipelatous dermatitis), which assumed a severe grade, but she recovered. Since that time there has never been cast off a uterine membrane, and her menstruation is as regular as before.

It is very seldom that physiological experiments reveal the cause of the disease and indicate the treatment at the same time, but, as I have shown above, there will be a partial restoration of the uterine membrane after degeneration by the phosphorus vapor in applying a mild electric current to the spermatic plexus and the uterine membrane. I have treated a case of membranous dysmenorrhœa of sixteen years' standing by the galvanic current with the best success, a complete cure; but the treatment had to be continued for eighteen months before the uterine nerves were fully restored.

Cases of a shorter duration demanded, of course, a shorter treatment; and I can say that I have succeeded in every case where the treatment had been kept up for the time necessary to complete a cure.

The inflammatory symptoms, as meso, or parametritis, chronic ovaritis, salpingitis, etc., I have found to be connected with the disease when the membrane had been expelled for a certain length of time, the nerves of the ovary, and those supplying the parenchyma of the uterus, or the ligaments and Fallopian tubes, becoming affected more or less. But in recent cases—and I have examined nineteen such—the uterus and the ovaries were painless, *i. e.*, without inflammation. I must therefore declare the disease *not* to be of an inflammatory character, as the most authors describe it. All the symptoms which will be found in old cases are the *result* of the disease, but not its cause.

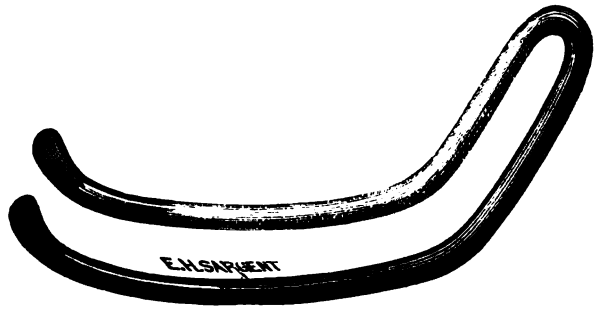
As to the name of the disease, I will call it what it is—a paresis of the uterine nerves, and especially those springing from the spermatic plexus. I will leave it to the gynæcologists of Athens to endow it with a proper Greek title.

ARTICLE III.

THE FORCEPS BLADE DIRECTOR; An Instrument Intended to Facilitate, under Certain Conditions, the Introduction of the Blades of the Obstetrical Forceps. By JOHN BARTLETT, M. D., Chicago.

The object of the writer is to present to the profession an instrument calculated, as he thinks, greatly to facilitate the introduction of the obstetrical forceps under certain conditions. Serious difficulty is sometimes experienced in applying the blades to the head high in the pelvis, or perhaps entirely above its brim, when the os is but partially dilated. In the attempt to introduce the second blade in these cases, it is occasionally found that the right margin of the os, because of the tension made on the opposite circumference of the opening by the shank of the blade already in position, has been drawn to the left quite beyond the median line. So that a blade, introduced into the os with difficulty, is estopped from gliding into its true position by impinging against the *left* plane of the presenting globe of the head, and is invited by this plane to pass on to the left side of the pelvis in company with the blade already introduced. To overcome this difficulty it is necessary in some way, by the fingers or the point of the blade, to draw or push the displaced circumference of the os so far toward its proper position on the right as to permit of the point of the blade's reaching and gliding upon the right plane of the globe of the head. The maneuvers necessary to accomplish this end are especially difficult when the vagina is narrow, the head high, and the os uteri small. For under such circumstances, the fingers serving as directors of the blade and retractors of the os fall short, and are frequently unable to retain their position at the mouth of the womb, at the same instant that the blade is pushed upward to enter it. As a result of these difficulties the practitioner, vainly resorting to the use of the fingers of one, and the other hand, presented now with the dorsal and now with the palmar surface toward the point desired to be reached, and inserting, perhaps hurriedly, now the

half hand and now the fingers only, too often harasses the patient, alarms the friends, and embarrasses himself with a series of failures before attaining success.



FORCEPS BLADE DIRECTOR.

To obviate these difficulties, an instrument which may be designated the forceps blade director, is here presented. It is made of iron wire, less than a quarter of an inch in diameter, formed at first into the shape of a hair-pin with the rods parallel. These are cut off at suitable length and are given, edgewise, as regards their plane, a vaginal curve. The ends are then flattened out and gently curved away from the plane of the rods, as retractors. The opposite extremity of the instrument, at a suitable point, is bent away from the plane of the rods, in the same direction as the retracting extremities, to serve as a handle.

The accompanying wood cut will give a good idea of the instrument, and will at once suggest the mode of using it. The first blade resting in place, the retractor, held gently by the handle in the left hand, its rods resting, the one above, the other below the middle finger of the right hand, is inserted into the vagina, and guided so that the points enter the os uteri and are brought to bear upon its right margin. The fingers are then withdrawn, while the instrument is steadied in place by the left hand still grasping the handle (purposely bent away from the median line) in such manner as to retract the os uteri toward the right side and to draw it slightly away from the head. The instrument now serves as a guide to the forceps blade, the rounded point of

which is glided along the "ways" formed by the rods directly into the os, and between it and the right plane of the head. One or the other retracting point of the director now falls within the fenestra of the blade, leaving its rims and the rods of the retractor in different planes, so that the latter are free to be withdrawn without disturbing the position of the former.

The contrivance, it will be seen, is, at once, an os uteri retractor and a forceps blade director. The instrument to which reference has been made, so far, is adapted for use in introducing the second blade only; there is a companion to it, similar, *mutatis mutandis*, for the left side, though occasions for the use of this director will be rare.

HOW TO CONTRIBUTE TO MEDICAL JOURNALS.—If you desire to prepare valuable communications for medical journals, you must observe the following rules:

1. Be positively sure you have something *new* to contribute.
2. Tell it in as few words as possible.
3. Do not plagiarize from text-books.
4. Never report an uncertain case without a verification or falsification of the diagnosis by a post-mortem examination.
5. Do not send the same communication to half a dozen journals. Select one, and send it to no others. If you neglect this rule, your habit will ultimately be found out, and *all* journals will reject your communications.—*Med. and Surg. Reporter*;

DR. WM. S. JANNEY, Coroner of Philadelphia, reports the following death-roll from his department for 1881: A list of 1,915 cases shows that 108 persons died during the year without leaving a single clue to establish their identity. Of this number seven were infants abandoned at birth; 38 of the unknown were men and three were women.—*Med. Bulletin.*

THE *Glasgow Medical Journal* contributes two cases of poisoning following the use of iodoform dressing in carious diseases. One of these had parenchymatous disease of the liver and kidneys.

Foreign Correspondence.

ARTICLE IV.

VIENNA, March 6, 1882.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER: The leading topic of the day in German surgical circles is the place of iodoform in surgery. Six months ago the new antiseptic seemed to have supplanted all others in the treatment of wounds, whether old or recent, septic or aseptic, and to possess many and important advantages, especially over carbolic acid. An enthusiastic advocate, Mikuliez, even laid down the proposition based upon his observation and experience as Billroth's assistant, that "of the entire Listerian dressing nothing now remains except the principle." Such was indeed the case in many of the large surgical clinics, notably that of Billroth, in Vienna, and surgeons who had the remedy simply on trial, almost without exception acknowledged that, while iodoform was, in its antiseptic action, the equal of any other agent, the ease of its application to *all* wounds, the simplicity of its employment, its anæsthetic properties, and its specific influence in transforming a tuberculous, fungous surface into healthy granulations, promised its rapid and universal substitution for all other antiseptic means.

Yet this chorus of praise to the newly enthroned, malodorous goddess of antiseptic surgery was rudely interrupted some months ago by the discordant wailings of sundry of her worshippers, who lamented that while her numerous virtues were unassailable, she had at times a decided homicidal tendency. This slander was at first treated as the hallucination of a madman, but the facts accumulated so rapidly that iodoform degraded

from its high estate, stands to-day a prisoner at the bar of German surgery, to plead for very existence in the surgeon's armament.

Yet the reaction is scarcely surprising when one considers the reckless way in which the agent has been used. Originally introduced by Zeissl and others as an efficient dressing for syphilitic ulcers, it was first used and brought to notice as a universal antiseptic dressing by Mosetio Moorhof in Vienna, about two years ago. In his hands it has produced no evil results, even when poured freely into wounds and cavities to any extent. Adopted and recommended to the surgical congress in Berlin last year by Billroth, and indorsed by Gussenfauer, of Prag, the remedy was soon in the hands of every enterprising surgeon. Under the impression that iodoform was perfectly innocuous, surgeons were long in the habit of applying it without stint, pouring 100, 200, even 400 grammes into a wound, so as to fill up the cavity completely. The result was many cases of severe, even fatal intoxication. Konig, of Gottingen, has recently published in the "Centralblatt für Chirurgie" thirty-two cases of more or less severe poisoning from iodoform dressing, which have been sent to him in answer to a published request for such cases. Of these he considers fifteen as slight degrees, seventeen, severe, six of the latter fatal from direct effect of iodoform. He remarks: "In the great majority of all (32) cases, much more than 10, in a large number 40, 50, 80, even 100 grammes at least were used." Yet in one case, a boy of eighteen, slight delirium, lasting a few hours, followed the application of a single gramme in the cavity of a tuberculous abscess. It is interesting to note that although in this case, the same quantity was subsequently repeatedly applied, no further abnormal symptoms were observed. This and similar cases of unusual susceptibility are explained *pro tempore* by the assumption of an "idiosyncrasy." Several points made by Konig are of great value. The poisonous effect of idoform is indicated by a rapid and feeble pulse. and by psychical disturbance—observations quite in accord with the experimental results of Binz and Högyer, who found paralysis of the heart and narcotic effects to result from exhibition of idoform in dogs and cats. Further, the dangerous forms

of intoxication occur almost exclusively in the *aged*, or in the *young with organic cardiac disease;* eleven of the thirty-two patients were more than sixty years old, and *nine of the thirteen severe* (and fatal) cases were *over fifty years of age;* with children free from cardiac disease, the surgeon has very little to fear. Light degrees of iodoform intoxication are indicated chiefly by hallucinations, usually of transient (a few hours') duration; patients insist upon getting out of bed, and usually imagine themselves threatened by physical injury. The severer forms exhibit abnormal frequency and weakness of pulse, delirium, hallucination; patients refuse nourishment, become melancholy, sometimes violent; death occurs from paralysis of heart and respiration. After use of excessive quantities of iodoform, especially in children, there is sometimes observed the picture of a severe meningocephalitis—stupor, coma, involuntary passage of urine and fæces; the autopsy reveals fatty degeneration of heart, liver and kidneys; within the cranium either nothing abnormal or a chronic meningitis.

The minimum dose which can produce abnormal symptoms is not yet determined; seems to depend entirely upon the "idiosyncracy" of the patient in fact; yet König remarks that, as a rule, the danger increases with the quantity given, and finds scarcely a case of severe symptoms following the use of less than 10 grammes.

In conclusion, while König regards the use of iodoform dressings as justifiable only where antiseptic results can not be obtained by other means (especially Lister's dressing), he insists upon the use of iodoform as indispensable in the treatment of tuberculous joints, and upon mucous membranes—mouth, rectum, vagina, etc.

Billroth, however, has not the same horror of iodoform. Since April, 1881, this substance has constituted the staple dressing for *all* wounds in his immense clinic. He had last year two fatal cases of poisoning—both scrofulous children—in one case 40 grammes of crystals were poured into a large cavity in the hip after evacuation of pus—in the other, 120 grammes were placed in the wound after resection of the head of femur. Thereupon he modified the mode of application so as to reduce to a

minimum the quantity applied. He now employs not crystals, but powder, which is applied to a given surface either by means of a pepper-box, or is dusted on from cotton. If union by first intention is designed, the wound is then closed with carbolized silk sutures; if small, and hence likely to discharge but little, the seam is simply covered with cotton (dusted over with iodoform), over which is laid a water-tight covering—Mackintosh for example—and a simple bandage; if the wound be large and promises profuse suppuration, iodoform gauze is applied in the same way as carbolized gauze after Lister. This iodoform gauze is very simply prepared by pouring the necessary amount of iodoform powder into a basin, and then rubbing thoroughly around in the powder, laundress fashion, a piece of suitable, large meshed cloth. In this way from ten to twenty per cent. of the weight of the bandage is found to consist of iodoform—a bandage which in Billroth's clinic has supplanted Lister's.

In mucous cavities, he uses a gauze prepared with gelatine, and containing thirty to fifty per cent., in order to compensate for the loss consequent on constant movement and irrigation of surfaces. For fistulæ in ano, for the nose, uterine cavity, etc., he makes suppositories of iodoform and gum arabic, with or without glycerine, according to the consistence required. For irrigation of mucous membranes (bladder), and for subcutaneous injections, a suspension of iodoform in glycerine (1 to 10) or in ether (1 to 5) is employed.

The first bandage is usually removed the fourth or fifth day, though sometimes allowed to remain ten, twelve, even fourteen days. Since granulations after long iodoform dressing are apt to be flabby, a stimulating salve or wash (arg. nit. 1 to 100) is usually substituted as soon as the surface is observed to be covered with granulations. Usually, two or three bandages are sufficient to secure this result.

Since iodoform is not soluble in convenient menstrua, Billroth still uses carbolized solutions for disinfection of hands, sponges, instruments, etc. Without entering into details as to results, let me say that the condition of the patient after iodoform dressing is, with rare exceptions, afebrile, painless; the wound is aseptic, secretes but little, and heals as rapidly as by

any other method. Nothing could present the happy results more forcibly than the statistics of Billroth's operations for extirpation of carcinomatous tongues. Between 1871 and 1876 the mortality was thirty-two per cent.; in 1877—1880 (fifty-three cases) with irrigations of pot. permanganate solutions, eighteen per cent.; between April and October, 1881, he performed the operation eighteen times, with the same operative technique as before, but with iodoform dressing; result, 18 *recoveries*.

The course of the recovery presented in no case unfavorable symptoms. Billroth himself ascribes the extraordinary success largely to iodoform. The dressing consisted simply in a piece of iodoform gauze fifteen to twenty c.m. long, containing about one gramme of iodoform, rolled up so as to form a tampon, and pressed into the wound. The tampon was generally renewed in from five to eight days after the operation.

Mosetig is now using iodoform suspended in glycerine as a local injection in the treatment of goitre. It is safe and efficient, he says.

Neumann injects the buboes from a hard chancre with the same liquid; the glands usually become smaller and softer, but the roseola appears invariably in due course. He also gives iodoform in pills, instead of pot. iod. for constitutional syphilis.

W. T. BELFIELD.

ARTICLE V.

HEIDLBERG, FEBRUARY, 1882.

EDITORS MEDICAL JOURNAL AND EXAMINER: — One who spends any considerable time abroad studying medicine or visiting hospitals, and fails to visit Heidelberg, will miss one of the most essential ingredients of his feast. This place has been rich in medical glory so long as to impregnate the air with its sanctity, and you breathe inspiration before you go to the hospital to see what manner of men the professors are. Although the inhabitants are not very numerous—about twenty-five thousand — yet for hospital advantages it is no mean city,

having about four hundred and fifty-three beds for patients, and at present more are knocking for admission than can be accommodated. The larger part of the hospital consists of detached buildings that contain but few beds, and large windows, so that the supply of sunlight and air surpasses any similar buildings I have happened to particularly observe, except the new hospital at Genoa. But I came here particularly to see a former Vienna acquaintance, Prof. Czerny, who, still quite a young man, not over forty, and probably not as old, has made a reputation world-wide for his bold, skillful and successful operations, and every day adds new luster to his fame. Formerly an assistant of Prof. Billroth, of Vienna, ten years ago he went to Fribourg and stayed five years, then came here to succeed the celebrated Simon, and although a comparatively small man, fills the chair full.

The opportunity for studying surgery here is almost unsurpassed, except for injuries, even by the large cities. The number of students is comparatively small, so that each can see and hear all that is said and done, while the operator is not hid by a crowd of assistants, as in Berlin or Vienna. But, to better illustrate, I will give you an epitome of his clinic for a day, which seemed to be only an average one. At each clinic one or more students are called down to examine the patients, give their diagnosis, prognosis and treatment, and defend the same before the class. In this way they become practical surgeons at the beginning of their career, instead of the end of it.

Case I. Æt. forty; strumous diathesis; has hydrocele on left side. Parts shaved, and washed with carbolic lotion. When scrotum was opened and fluid evacuated, the testicle was found somewhat enlarged, and tunica vaginalis much thickened, so the testicle was removed, and found studded with caseous deposits. Vessels were tied with catgut, drainage tube inserted, and parts brought together with sutures. Had it not been determined to remove the testicle, a deep, loose suture would have been taken, and parts allowed to heal from the bottom.

Case II.—A young girl of eleven was presented, who had lost her nose from lupus, and had the defect remedied by a plastic operation, the flap being turned down from the forehead. The

face was covered with eczema, for which ung. zinci oxidi was ordered.

Case III.—A female, æt. about thirty-six, from whom, a few weeks previous, the professor had removed the uterus for malignant disease, and now removed the last silver suture. The professor has operated ten times, with six recoveries and four deaths; always operates through the vagina. Patient was ordered home, and to report in six weeks. The success in this class of operations promises much to the sufferers from this malady, when taken early.

Case IV.—Female, æt. sixty-five, was presented, on whom an operation had been performed for epithelioma of left frontal region, that had extended through the cranium and affected the dura mater. The diseased tissues had been removed, including a portion of the dura mater, and wound covered by a flap from scalp. The wound was now entirely healed, and pulsations of brain could be seen through scalp covering the aperture in the skull. Patient dismissed, to report in a few weeks.

Case V.—Child had been burned over entire anterior part of chest. Skin-grafting had been necessary, for which pieces of skin as large as thumb nail had been taken from an amputated leg, and successfully transplanted. Wound or burn was now nearly healed.

Case VII.—Male, with enlarged lymphatic glands in submaxillary region, which were injected with 50 per cent. solution of iodoform. Several patients similarly affected were undergoing like treatment, but had not been under observation long enough to furnish definite results.

Case VIII.—Female ambulant. Had complained for two years of dysphagia. Had not lost flesh; general health good as usual; menstruation normal; nervous system undisturbed. Could swallow liquids without trouble. Solids would apparently go just below the larynx and return. Sometimes they would be swallowed after several unsuccesful attempts. Swallowing was not accompanied with pain, except the choking. Patient was given some bread to eat, and demonstrated the difficulty several times. Swallowing solids was sometimes facilitated by taking liquids. It might be stricture, but there had been no cause for stricture;

moreover, a bougie passed down the œsophagus proved the absence of stricture. It might be malignant disease, but none could be felt; the bougie or regurgitated food was not tinged with blood; besides, its duration almost excluded the disease. It might be nervous, but no impairment of the nervous system could be observed or elicited, although a longer observation might be necessary to settle that point. It might be a cul de sac into which food deviated, but none could be felt in an abnormal position after swallowing. It might be owing to pressure on the parts by enlargement of thyroid gland. This might even be the case when the gland did not seem to be perceptibly enlarged, as it often pressed in between trachea and œsophagus, and sometimes behind both, and eluded detection. In the present case, the gland was somewhat enlarged on right side, but only to a slight extent; in fact, so little as to hardly attract attention; nevertheless, the lecturer had had one case similar to the present, in which he removed the gland with perfect relief. The patient was ordered iodide of potassium three times a day, and emplastrum mercurial. Should there be no alleviation of symptoms in due time, and nothing else discoverable, the gland would be extirpated; or should a cul de sac be found, it would be remedied by removal.

Case IX.—Young man of seventeen, with cleft palate. Operation for closure was performed under chloroform, with head in dependent position. Edges of cleft were denuded with scissors and knife, and brought together with silver and catgut sutures. Incisions were made on either side of and parallel to the cleft, and tissues loosened from hard palate to relieve tension on sutures. Difficulties of this position are profuse hæmorrhage, which obscures the operation, and œdema of brain, which is liable to occur in adults.

Case X.—Young woman upon whom Battey's operation had been performed three weeks previously, for hystero-epilepsy. Wound had entirely healed, but there was some tenderness in right groin, with elevation of temperature, and abscess feared. Treatment was expectant. Spasmodic manifestations had disappeared since the operation.

This is only a sample, detailed in brief, of the clinical lectures

and operations that last from one and a half to three hours. Students are allowed to perform some of the operations, under the direction of the professor. One of the students did the castration detailed above. Dr. Czerny talks English very well, and welcomes strangers with cordiality. Some of his private patients are taken into the hospital. Patients come from the United States to consult him concerning maladies to which he has given special attention, and for operations in which he has become particularly skilled.

From the surgical clinic those who desire go to the ophthalmic clinic and lecture of Prof. Becker, where abundant material is found, and numberless cases full of scientific instruments, charts, calculations, etc., for determination of refractions, and other intricate and difficult problems connected with the eye. And so I might enumerate various other departments, but enough has been given to illustrate something of what may claim the attention at Heidelberg.

W. H. FITCH, M.D.

ANÆSTHETIC MIXTURES.—The Vienna mixture, with which eight thousand operations have been performed without an accident, consists of ether, three parts; chloroform, one part. Billroth's favorite anæsthetic mixture is chloroform, three parts; ether, one part; alcohol, one part. An English mixture, known as the A. C. E. mixture, consists of alcohol, one part; chloroform, two parts, ether, three parts.

Owing to the different volatility and specific gravity of the different anæsthetic liquids, the vapors have, necessarily, a different composition from that of the mixtures themselves. The value of a mixture must, therefore, in part, be determined empirically. Some experiments have been made in the mixing of heart-stimulants with chloroform. Sanford mixed one pound of chloroform with two drachms and a half of amyl nitrite. Others have added oil of turpentine to the chloroform. The objection so far has been that such mixtures cause a headache.—*Med. Record.*

Domestic Correspondence.

ARTICLE VI.

LOS ANGELOS, CAL., March 1st, 1882.

The climate of Southern California is delightful; everybody who comes here is pleased with it. This alone is sufficient to account for much of the benefit which invalids here experience—and the invalids who come here for health nearly all improve, except those who are in an advanced stage of pulmonary consumption when they arrive. The climate is semi-tropical; there is no winter—as we in Chicago understand it—and there is no tropical summer; the summers are no hotter than they are on Lake Michigan. The year 1880 was an exceptional one, with numbers of severe frosts and of fogs. I inclose the meteorological report of that year for this place—made by the Government observer.

The frosts referred to were simple hoar-frost, which killed the flowers and tender leaves. This winter there have been several such frosts, but all so slight that the calla-lilies, the roses and heliotropes do not show perceptible damage. The fogs generally occur in the early morning and are gone soon after sunrise. Riding, early in February, over a plain near here, where the grass was just springing up and the air was balmy and warm, one of our party instinctively remarked: "What a cold and desolate spot this must be in Winter!"

With so slight a rain-fall there is a dearth of vegetation on the hills and valleys except where irrigation is practiced. The unirrigated land is used for sheep grazing mostly. In the very dry seasons many sheep are lost by starvation—we have seen some dozens of such in our drives hereabout. Water the soil and it will produce almost anything. The valleys are being rapidly

LOS ANGELOS METEOROLOGICAL SUMMARY 1880—MONTHLY AND ANNUAL MEANS.

DATE.	Barometer	Highest Barometer	Lowest Barometer	Range Barometer	Mean Therm.	Highest Therm.	Lowest Therm.	Range of Temp.	Relative Humidity per cent.	Prevailing Wind Direction.	Total No. Miles.	Maximum Wind Velocity.	Amount Rainfall	No. Days Rainfall
January	30.065	30.304	29.692	0.612	50.5	76.0	30.0	46.0	65.0	N.	3214	21	1.33	5
February	30.149	30.387	29.876	0.511	49.1	70.5	33.5	37.0	67.0	NE.	3700	26	1.56	8
March	30.068	30.312	29.872	0.440	50.5	73.5	36.0	37.5	72.6	NE.	3622	17	1.45	6
April	30.076	30.219	29.936	0.283	55.2	83.0	40.0	43.0	77.4	SW.	4073	23	5.06	13
May	29.951	30.160	29.782	0.378	61.3	97.0	42.0	55.0	72.0	SW.	3508	19	.04	1
June	29.914	30.014	29.800	0.214	62.9	83.0	50.0	33.0	72.4	SW.	3185	14	.00	0
July	29.961	30.071	29.859	0.212	63.5	85.0	52.0	33.0	73.4	SW.	3377	22	.00	0
August	29.871	30.672	29.681	0.391	66.1	87.0	52.0	35.0	71.9	SW.	3178	19	.00	0
September	29.929	30.059	29.794	0.265	63.7	91.0	44.0	47.0	71.3	SW.	2694	14	.00	0
October	29.997	30.152	29.850	0.302	61.6	89.0	44.0	45.0	62.5	SW.	2423	16	.14	2
November	30.007	30.314	29.756	0.558	54.8	85.0	35.0	50.0	55.1	NE.	1918	17	.67	3
December	30.040	30.269	29.647	0.622	55.0	80.0	38.0	42.0	71.6	NE.	2403	22	8.40	13
Sums	360.088	362.333	357.545	4.788	704.2	1000.0	496.5	503.5	832.2		37,295	230	18.65	51
Means	30.007	30.195	29.795	0.400	58.7	83.3	41.4	41.9	69.3	SW.		19.2		

GENERAL REMARKS.

January—Damaging frosts end of month, range of temperature above normal.
February—Frosts, not damaging. Maximum temperature, 9.5; lower than normal.
March—Frosts 5th, 15th and 16th. No damage. Weather unusually disagreeable for corresponding month.
April—Frost, 19th, no injury. Maximum temperature on 9th above normal.
May—Frequent fogs during month; temperature above normal.
June—Weather hazy and foggy; temperature below normal.
July—Dense wet fogs; maximum thermometer, 23d, and minimum thermometer, 22d of month.
August—Season backward; maximum thermometer, 5th; minimum thermometer, 6th.
September—Frequent fogs; maximum thermometer, 5th; minimum thermometer 23d and 29th.
October—Weather warm and pleasant; maximum thermometer, 16th; minimum thermometer, 11th.
November—First frost, 13th; no damage; maximum thermometer, 4th; minimum thermometer, 13th and 16th.
December—Frost, 1st; rains of great benefit; maximum thermometer, 11th; minimum thermometer, 1st.

improved, and irrigating ditches or zanzas—pronounced *sanka*—are being extended in every direction. It is very dusty here in the summer of course, but we have seen very little of it. The streets of this city are sprinkled the year round. The scenery is beautiful; the grandest sight is the snow-covered Sierras viewed over the tropical vegetation—in the foreground—of flowers, orange trees loaded with yellow fruit so heavily that the limbs must often be supported to prevent their breaking; magnolia, lemon, lime, cyprus, pepper and eucalyptus trees, all clothed in in the richest of green leaves. The population of the towns in Southern California, aside from the original Mexican inhabitants of the older towns, is made up largely of people who have migrated here in search of health. Those who have improved, which are a majority, are so fulsome in their laudation of the climate and its benefits to the sick that you need to allow liberally for their enthusiasm.

This climate is a good one for invalids—probably not for all classes of invalids, and certainly not for those far advanced in phthisis. But for incipient phthisis, bronchitis, general debility, neurasthenia, neuralgia, dyspepsia and catarrh, it must be that a change from a northern climate to this is very beneficial. It is impossible that so much and so uniform testimony from so many people who have proved it experimentally can be unreliable.

Nor does one care much, in the face of such testimony, for theories about the climate based on a study of the meteorological tables unless the theories are favorable; one feels like saying, if the theories make out the climate a bad one, "so much the worse for the theories."

But in coming here for health one should exercise some wisdom in several directions. If he is very ill he should not come alone; some friend should come with him to find a boarding place and take care of him for a time at least. Then, he should be sure that, wherever he goes to live, or stay for one day even, he has a fire in his room whenever he feels cold. The air becomes chilly late every afternoon, especially in winter, and a Northern man needs his overcoat if out of doors, and a fire if indoors, as night approaches. The old residents have become so used to the climate that they don't think of having a fire unless the temperature falls to near

freezing point. They will build a house of a dozen rooms and provide for a fire in just two—in all the rest you cannot find a fireplace, a stovepipe hole or even a chimney. Phthisical patients who have passed beyond the early stage of the disease should not come here to stay. This is the largest city in Southern California, and offers perhaps better advantages for the entertainment of health seekers than any other, but there are eight or ten other towns in this quarter where one may make himself comfortable if he only has money. The best way to do is to make this headquarters and visit other regions as one's inclination prompts. The best way to reach here, except in the summer months, is by the new Southern Pacific and Santa Fe route; in summer the Union and Central Pacific Railways are the best.

The mortality in Los Angelos is relatively high—for the month of February ult. it represented an annual death rate of 26 per 1000. The proportion of deaths from phthisis is large and swells the list materially, but most of the cases are in people who have been here less than a year, thus testifying to the fact that many come here with that disease to die. Malarial fevers occur and add to the mortality list, also typhoid fever, which has been rather prevalent of late.

New Mexico and Arizona offer doubtless a more ideal climate for consumptives, especially in the advanced stages, than this region. The trouble is that in the territories referred to there are few places where invalids enjoy living which offer any real attractions for that class of sick people who are able to travel for health. Los Vegas, N. M., has some hot springs that are highly recommended, but very few attractions beside.

We spent a day at Santa Fe, and were very much entertained with the mud houses, the donkeys and the old churches, something less than six centuries old; also with the pleasant scenery in the distance, but one can *do* the town in a few hours, and it is no wonder invalids tire of the place for want of pleasant surroundings and diversion. The time will come probably when many more attractions will call visitors to this old town and beguile them to remain more than a brief day.

Sick people who are sent away from home to get well, or drag out a longer existence in their invalidism than they could at home,

must go where they can find some enjoyment if they are to receive the greatest benefit, or much benefit. No health resort will attain much popularity till it becomes enjoyable. Here is one that is in a very high degree enjoyable.

In nearly every public hospital in California—if not every one—and in many private hospitals, the physicians and surgeons receive pay for their services. In the Hospital of the " City and County of San Francisco " each attending physician and surgeon receives $1,200 annually for his services. In the German Hospital each one receives $900. The resident physician at the County Hospital receives $1,500, while at the German Hospital this officer draws but $1,200, but in each case he is debarred from engaging in any private practice. In the French Hospital, with 160 beds, there is one attending physician, who is on duty throughout the year. He is supposed to visit the institution at least once each day, and his pay is $1500.

In nearly or quite all the county hospitals throughout the State a salary attends the office of physician. The amount varies, outside of San Francisco, from $300 to $1,000, the latter figure being the pay in the county of Los Angelos. Some of the county hospitals are at the same time almshouses, the county caring for its poor, sick and well, under the same roof; but in some cases the attending physician receives additional compensation as superintendent of the poor-house part of the establishment.

The " County and City Hospital " is under the management of the Board of Health of San Francisco, appointed by the Governor of the State. They appoint all the officers, medical officers included. The Board of Supervisors hold the purse and vote the appropriations, but have no further voice in the management. The attending physicians and surgeons are chosen from the faculties of the two medical colleges—the colleges being equally represented; the representatives of each college have exclusive control of an equal number of wards, and two internes are chosen annually from the graduates of each college, to serve one year. A superintendent physician, who lives and practices outside, and who gives only an hour or two to the hospital daily, has charge of the institution; the house physician lives in the building and gives his whole time to his duties.

There is a small amphitheater for clinics and here the students of the two colleges receive their hospital instruction. One college, the younger, the "Medical College of the Pacific," is three miles away from the Hospital; the older, the "Medical Department" of the State University (the old Toland School), is nearly four miles away.

The County Hospital is well managed. It is kept clean and in fair repair by the labors of the patients alone. No histories or notes of cases are kept on tablets hung over the beds, but only the name, age, residence, diagnosis, etc., of each patient. The histories are kept in books for the purpose.

Liquor is issued to patients only on the written order of the house physician and the order must be approved in writing by the attending physician within twenty-four hours.

There are several private hospitals in San Francisco I was unable to visit. I regretted this very much, and in particular that time did not permit a visit to one on Falsom street which supports a sign: "*Private Female Lying-In Hospital.*" There is nothing, as Dr. J. S. Billings would say, like giving an *article* a proper title. N. B.

ARTICLE VII.

NEW YORK CITY, March 16, 1882.

EDITORS OF CHICAGO MEDICAL JOURNAL AND EXAMINER: We are still talking about the new code and the prospective new medical laws. The general opinion concerning the former is that it is a mongrel affair and no great improvement on the old one. It includes homœopaths, but excludes mineral waters. It pretends to be liberal, but inserts the ridiculous prohibition of "interviewing." The fact is that the day of ethical codes is past, and it might just as well have been recognized at the meeting of the State Society. Indeed, Dr. Morse's resolution to abolish the whole came very near passing, and it will doubtless be adopted in a year or two.

Medicine is theoretically a learned profession, but practically it is ruled by much the same laws and instincts as trade. We

work for a recompense nowadays—not for an honorarium. It may be unfortunate, but it is true. And why should the doctor need to have his actions regulated by a written code, and not the lawyer or the grocer? We want a short code which will teach young physicians medical etiquette, not medical words.

The journalistic threats that the New York State medical delegation to the American Medical Association will not be received, are preposterous. The delegates represent the foremost medical men in the city. The American Association would receive more injury than it could gain by excluding them. If it did so, it would indeed only make itself ridiculous.

The charge that the movers and formers of the new code wanted homœopathic consultation practice is a silly one. It does not seem to be remembered that our County Medical Society long ago permitted consultation with all regularly-qualified practitioners who did not practice according to a dogma. There are very few dogmatic homeœopaths now. Consultation with the quasi-eclectics has not been an uncommon thing. But furthermore, the homœopaths have got along without us so long that they can still do very well alone.

There is quite an active movement in favor of a law taking the licensing power away from the colleges and giving it to a State Examining Board. The graduation of some six hundred new doctors in the next few weeks emphasizes the interest aroused at the meeting of the State Society concerning this matter. The subject even receives attention from the daily press, which announce that there is now one doctor to every five hundred inhabitants in this country, and that each doctor can therefore average only two or three patients per week. The medical colleges do not openly oppose such a law. Indeed, with the universal sentiment demanding that something be done to protect the profession, they would hardly dare to do so.

The small-pox scare has nearly subsided, although the disease is still present. Very nearly everybody has been vaccinated. The demand for virus from one large drug establishment was one thousand points per week. The amount of free vaccination done at the dispensaries, and elsewhere, has been very great, averaging over a thousand cases a day. I have heard of no fatal re-

sults from the bovine virus, though it makes a very sore arm. From what I am told, there is a vast deal of ignorance among the profession on this same subject of vaccination. And there are said to be a great number of non-protective vaccinations. I believe in the anti-vaccination societies most heartily. They are doing a good work—that of forcing the profession to inquire into what vaccination really does. It was not until last January that any records began to be kept at the city small-pox hospital. These records now show that a large majority of the patients received had been vaccinated. And this is what other statistics reveal. The fault, however, is not in the vaccine disease, but in the vaccine virus and the doctor who uses it. In my own experience I have found that one kind of virus supplied by a reputable firm produced no effects, while another kind upon the same persons was active. Many other physicians have told the same story. Yet thousands of quills of this virus have been used here and elsewhere every week.

It is rather the fashion here, in deference to the wish of the patient to get his money's worth, to scrape or scratch deeply so as to make the blood very apparent. This is done considerably in the dispensaries, since the deep method is quicker. My friend, Dr. Derby, who is one of the few experts on vaccination in the city, tells me that it is this deep scarification which is largely the cause of the bad arms, with erysipelas, sloughs, etc., and that the vaccine protection is lessened or spoiled by having these severe inflammations take place. The patient believes the worse the arm the surer the protection, and so does the doctor very often.

At one of our dispensaries here there is a female laryngologist and oculist, Dr. Rosa Welt. She has studied in Germany, and is said to be very accomplished. She is, I believe, the only lady specialist we have in this line, and we hope to be proud of her. The alternate to the same class is Dr. Baruch, who showed me the other day some interesting results of the treatment by insufflation of starch and nitrate of silver powders (B. gr. ii—gr x. to ℥i).

Dr. Baruch is of the opinion that the proper application of powders will, in very many cases, do quite as much for the

throat and nose as the most elaborate and powerful spray apparatus. Certainly we should all hope so, for the general practitioner can afford insufflators, and with a little experience can use them as well as a specialist. And he need not send away his cases if all the treatment given by these specialists is based on the simple principles of first cleansing the mucous membrane and then applying astringents.

At the Bellevue outdoor department, Dr. Katzenbach, who is a skillful therapeutist, has told me of a large number of cases in which he gets particularly good results from combining muriate of ammonia with the muriatic tincture of iron. The suggestion is from some English physician whose name I do not recall. It certainly seems to add much to the efficacy of the iron. Indeed, about the only cases in which I have seen unquestionable and direct benefit from this drug have been when the ammonium was given with it. Iron is a good deal like true religion in most cases—it must be taken with a little water and a good deal of faith.

Dr. Wooster Beech, of this city, has invented a very ingenious instrument for removing the spinal cord through the foramen magnum without opening the spinal canal at all. It consists of a long, flat, pliable strip of brass or steel, to which are attached at regular intervals steel rings just large enough to slip over the greatest expansion of the cord. The lower ring has a very sharp, inferior edge. All of the rings are split transversely so that their size can be changed. The brain and medulla are removed, and the instrument slipped down over the cord, cutting the nerves as it goes. When the end is reached, the cord is cut off by a fine wire loop connected with the first ring and running up along the flat slip. If the instrument works as it promises, a great deal of trouble and disfiguration can be saved, and spinal cords will be taken out oftener than they are at present.

The Columbia Veterinary College, and "School of Comparative Medicine," as its authorities like to add, is a rather curious place. I visited it with Dr. Beech, the other day, in order to try his new instrument. We were shown around the establishment. There was a menagerie of dead animals in the dissecting-room. On one table were the remains of a horse; on another the car-

cass of a camel; near by was the muscular preparation of an antelope, which was being prepared in hope of getting the college anatomical prize. Some horses' legs, the muscular dissection of a dog, and a dead boa constrictor some fifteen feet long were disposed about the place. Several rabbits with the supposed virus of anthrax in them were hopping around in the room above—very robust and not too chaste. The case of the camel was the most interesting one. I examined his stomachs, of which he has five, and the curious "water-bags" in the first and second division, wherein he is supposed to bottle up liquid supplies. The cause of his death was a perinephritis, ending in absolute gangrene of the outer parts of the kidney. Up-stairs, in Dr. Satterthwaite's laboratory, we were shown some beautiful specimen's of the "pearl disease," or bovine tuberculosis." The tubercles, which Virchow considers sarcomatous rather than tuberculous, are in the shape of round, hard, white bodies attached to the pleura and other parts by a pedicle. There were also speciments of contagious pleuro-pneumonia, and of anthrax, the latter appearing in the form of deep, ugly-looking ulcers on the mucous membrane of the stomach. Dr. Satterthwaite, in connection with Drs. Porter and Dana, have lately made some experiments with the inoculation and cultivation of anthrax.

The medical and spiritual charities of the city are just now in a flutter over some very numerous and generous bequests from the late Miss Sarah Burr. This lady died on the 1st inst., worth about $3,000,000, and having very few relatives with whom to leave the money, she accordingly divided up most of it, and there is scarcely a charity in the city which does not receive a portion.

First of all she gives $200,000 to establish a new dispensary, to be called the Good Samaritan Dispensary. Then $30,000 is given to St. Luke's and the same sum to the Woman's Hospital; also the Home for Incurables, the German Hospital, Mt. Sinai Hospital, Home for Consumptives, Society for Relief of the Ruptured and Crippled, get $10,000 each. The Northeastern Dispensary gets over $15,000, and most of the other dispensaries get $5,000. The Training School for Nurses gets $10,000. Altogether, nearly half a million is given to various medical

charitable institutions. It is rather curious to find that $10,000 is given to the Jewish Hospital here, and $10,000 more to the Society for the Conversion of the Jews.

Two new medical journals have appeared since I last wrote. One is the *Quarterly Illustrated Journal of Medicine and Surgery*. It is edited by Dr. G. H. Fox, and occupies a peculiar field. The first number contains several colored lithographs of plastic operations performed by Dr. Post. It is in large quarto form, and it can therefore present a certain class of subjects better than is possible in ordinary journals. Dr. McBride's *American Journal of Neurology and Psychiatry* is happily named, and has some especially good features. Its editorial notes and comments are excellent, and it aims to supply the neurological needs of the general practitioner.

The latest literary gossip is, I believe, about the *Journal of Obstetrics*. Its editor, Dr. Mundé, is not so popular among gynæcologists as he might be. Consequently, the Obstetrical Society voted to give its reports to the *New York Medical Journal*, and thus the "foremost obstetrical journal of the country" is left out in the cold. How much injustice is done I cannot say, but it is not likely that the general practitioner will suffer much from the internecine strife. It is said that the house of Lea & Co. is to publish a "Gynæcological Encyclpædia" which will tell everything that there is to be told regarding diseases of women. Everyone is entitled to his hobbies, and one of mine is that gynæcology is demoralizing the women of our cities. No doubt much physical good is done, but women are brought to that stage when they think no more of having a physician look at the cervix than at their tonsils, while in many cases a morbid craving for local treatment, tampons and pessaries, is generated. That women believe in the efficacy of the speculum may be inferred from an anecdote told of one of our eminent physicians. He examined a lady patient with one of these instruments one day. The exploration ended, he was about to withdraw the speculum. "Excuse me, doctor," said the patient, "but for a long time I have been feeling pains in my stomach. While you are about it, won't you see what is the matter there?"

At the Academy of Medicine this month, Dr. Castle read a

practical paper on the treatment of some of the ordinary diseases of women. He recommended very highly the use of Fowler's solution for some of the difficulties, usually thought to be digestive, that occur among women at or near the time of the menopause. He referred to the effect of the overdistension of the abdomen with flatus as a cause of prolapse. This idea he claimed as original. He also made a useful suggestion in regard to giving the vaginal douches. The simplest way was to have the patient in a sitz-bath. At a previous meeting of the Academy in February Mr. Wright read a paper on plumbing and allied topics. It was not, I am told by experts, a very accurate or novel contribution, but it seemed to interest the audience, who probably were as ignorant as most doctors are everwhere about plumbing. The discussion brought out, at a subsequent meeting, a paper from Dr. Frank H. Hamilton on "The Struggle for Life Against Civilization and Æstheticism." The tenor of thought is indicated by the title. The paper was rather a novel one for a medical society. It was a thoughtful one, however, and was well discussed.

The subject of Guiteau's insanity was debated at a meeting of the Medico-Legal Society this month. It was introduced by a paper from Dr. Hammond, which is already in print. The discussion was all one way as regards the question of sanity or insanity, but was rather inharmonious otherwise. Some thought that Guiteau was born insane; some that he became insane when at Ann Arbor. Most seemed to think him a moral idiot, but others thought him a religious monomaniac and with a very fair amount of moral sensibility. Hammond thought he should be hung. Beard intimates that if we hang him we make fifty millions of Guiteaus. The general opinion seemed to be against Hammond's view that some insane are responsible, or at least punishable. It would not be easy to get a clear idea of what our New York experts think of Guiteau's mental condition from the discussion at this society, which, by the way, includes but few, if any, of those connected with the asylums of the city. The view taken by most was that Guiteau was congenitally devoid of moral sense. With this moral vacuity were some intellectual peculiarities characteristic of monomania. It would not be claimed, I

presume, that persons with no moral sense are necessarily insane, since our prisons are full of such, and they are not so rare in the ordinary walks of life. Besides, it would be hard to show that Guiteau was without moral sensibilities. It must be the existence of some intellectual vagaries that would make him out insane. The "parallel" historical cases cited in the discussion were parallel or not according to the listoner's standpoint, and were of no logical or argumentative value. The best collection of evidence as to Guiteau's insanity is, it seems to me, in Dr. Beard's article on the subject in the January number of the *Journal of Nervous and Mental Disease.*

At a subsequent meeting of the Medico-Legal Society the paper by Dr. Johnson, of Brooklyn, on anæsthetics, was discussed. There was little said which did not confirm the several conclusions reached by Dr. Johnson, and which are so important that I append them:

1. Anæsthetics do stimulate the sexual functions; the ano-genital region being the last to give up its sensitiveness. Charges made by females under the influence of an anæsthetic should be received as the testimony of an insane person is. It cannot be rejected, but the *corpus delicti aliunde* rule should be insisted on. Dentists or surgeons who do not protect themselves by having a third person present do not merit much sympathy.

2. Deaths from administration of chloroform after a felonious assault, unless the wounding were an unmistakably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

3. The surgeon has no right to use chloroform to detect crime, against the will of the prisoner. But the army surgeon has the right to use chloroform to detect malingerers.

4. The medical expert, notwithstanding he is sent by order of court, has no right to administer an anæsthetic against the wish of the plaintiff in a personal damage suit, to detect fraud.

5. Gross violations of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on the charge of manslaughter.

6. A surgeon allowing an untrained medical student to administer anæsthetics, life being thereby lost, will subject the surgeon

himself to a suit for damages. What he does through his agent he does himself.

7. The physician who administers an anæsthetic should attend to that part of the business and nothing else. He should have examined the heart and lungs beforehand. He should have the patient in the reclining position, with his clothes loose, so as not to interfere with respiration; should have his rat-tooth forceps, nitrite of amyl and ammonia, and know their uses, and when to use them and how to perform artificial respiration.

8. In operations on the ano-genital region and the evulsion of the toe-nail, complete loss of sensation in these parts should never be allowed, and no operation on these parts at all should be had under an anæsthetic, unless by the approval of a full consultation who have a knowledge of the dangers.

9. Chloroform cannot be administered by a person who is not an expert to a person who is asleep without awaking him. Experts themselves, with the utmost care, fail more often than they succeed in chloroforming adults in their sleep.

Dr. W. J. Morton gave some statistics showing the comparative danger of chloroform. He thought that its use should be forbidden by law. Dr. Gordon related some experiments in which attempts to chloroform sleeping persons were made unsuccessfully.

NEW YORK CITY, March 16, 1882.

ARTICLE VIII.

LINDEN, WIS., March 22, 1882.

PUERPERAL ECLAMPSIA FORCEPS DELIVERY AND VENESECTION.

Mrs. S., a young English woman, aged 18, and a very plethoric primipara, was seized without any previous symptoms, at seven P. M., January 16, 1882, with a severe convulsion, which, according to the opinion of her medical attendant, lasted some minutes. I was sent for immediately, and arrived at the house in about twenty minutes after the first spasm. Upon my arrival I found her in one of the most severe convulsions possible. Her respi-

ration had so far ceased that her face was nearly black. Her tongue was badly lacerated, and protruding through oozing froth and blood. Radial pulse scarcely perceptible.

I caused her to be placed on a bed at once and opened the median basilic vein, taking about six ounces of very dark blood. As soon as this amount of blood had been taken the convulsions began to diminish, although the respiration was slow and labored. I then administered chloroform, after which I made examination per vaginam and found the os fully dilated with the head engaged and child living. I think I never saw a case where the fundus of the uterus was so hard and contractions so constant. I placed the patient upon the edge of the bed with knees flexed, and applied my Miller forceps at once. After which forceps being tied and locked, patient was placed in her old position and covered. Finding some little cessation of the uterine contractions about this time, I waited until the next contraction, when I made traction, and in less than twenty minutes from the time I entered the house I delivered her of a living girl baby weighing eleven pounds. Shortly after the placenta presented and was expelled almost entirely by uterine contractions, but immediately upon the delivery of placenta another severe convulsion came on. I will add here that there was very little uterine hæmorrhage. I then administered chloroform and sent for Dr. Eastman, of Mineral Point, seven miles away. Meantime I kept her under the influence of chloroform, more or less. I introduced the catheter and drew off about four ounces of urine, which I tested, and found it to contain a large per cent. of albumen. Later tests showed a specific gravity of 1007. Dr. Eastman arrived about 10 p. m. We at once discontinued the use of the chloroform. Shortly after she had another convulsion, lasting three minutes. Upon consultattion we decided to take more blood, and did so before the convulsion ceased. The spasm seemed to subside at once when blood was taken. The amount of blood taken at that time was about thirty ounces, after which I administered as follows:

℞ Chloral hydrate..... ℥j.
Aqua..... ℥j.

M. and S. One teaspoonful every hour in a tablespoonful of water.

No convulsive efforts of any importance were afterward seen.

Acting upon the supposition that the eclampsia was caused by chemical changes in the blood, we took away largely of the same, and after that diluted it as freely as the stomach could take it with copious draughts of water. The patient made a rapid and good recovery, and at present is quite well and has a healthy child.

Summing up, then, I would venture the opinion that my patient was suffering from the toxic effects of whatever poison is generated by the non-action of the kidneys. The elements of success consisted, 1st, in the immediate delivery of the child, thus lessening the pressure on the kidneys. 2d. Diminishing the amount of blood, thus lessening the quantity of the poison in the system. 3d. Diluting the remaining blood with water, thus rendering it less potent in its effects on the nerve centers.

FEMALE DOCTORS IN RUSSIA.—The number of female candidates for entering upon the study of medicine in Russia is increasing. The normal number of admissions is fixed at seventy, but the actual number of applicants now amounts to more than double that number. The total number of female students who have been admitted within ten years was 959, and of these 281 appear to have terminated their studies and been admitted to the practice of medicine.—*Med. and Surg. Reporter.*

THE DANGERS OF NERVE STRETCHING.—Five fatal cases of nerve-stretching for locomotor ataxia are reported; one by Socin; one by Langenbeck (who originated the operation); one by Billroth and Weiss; one by Berger, and one by Benedict. In these cases it appeared as if there had been some violence done to the spinal cord and medulla, *e. g.*, vomiting, singultus, paralysis of bladder, etc. Dr. Althaus considers it an unsafe measure when there are cardiac or respiratory diseases.—*Med. Record.*

Society Reports.

ARTICLE IX.

CHICAGO MEDICAL SOCIETY.

Stated meeting, March 20, 1882, President E. Ingals in the Chair.

Dr. James G. Kiernan read a paper on

SIMULATION OF INSANITY BY THE INSANE,

And reported many cases, some of which had acquired some celbrity, and clearly proved that such simulation did not necessarily imply a sound mind, even though the insane feigned for some rational motive.

THE CASE OF GUITEAU.

As the Doctor had been employed as an expert by the defense in the Guiteau trial, he was asked if there had been any simulation of insanity in that case. He said there was not. Guiteau had based his plea on *his inspiration* and made a rational defense, so that in a strict sense he was not feigning insanity. However, as to the soundness of mind of the prisoner, Dr. Kiernan said that he thought his was a very common case of a form of insanity, monomania, which in his case depended on a congenital malformation of the brain. In a strict sense he had no strongly-marked delusion, but that was a matter of slow growth in such cases. However, the Doctor had not the least doubt that Guiteau shot the President while laboring under a delusion.

While in the Oneida Community the prisoner had claimed many inspirations. Here, in Chicage, he had once made such a claim when defending a client guilty of larceny, addressing the court on the second coming of Christ, and his inspiration; and had to be called to order for contempt of the court.

Many physical peculiarities characterized Guiteau's insanity. His whole skull and face were very asymmetrical. Although a perfect symmetry was rare, ordinary departures were very slight. In Guiteau there was a marked deficiency in the posterior region; a marked difference between the two sides of the face, extending to the pupil; and if he had been brought before physicians at an asylum two years previous he had surely been committed.

There came the question whether in the family itself there had been insanity. One uncle died of insanity, another of softening of the brain. His father was pronounced insane by two physicians. A first cousin was insane. One brother and one sister were epileptics. Another relation suffered from exophthalmic goitre. A pamphlet published by the assassin in 1866 resembled very much the ordinary writing of the insane.

Dr. Kiernan subsequently discussed the manner in which experts are called by the defense as well as by the prosecuting party, and thought that the present mode in this country was as good as any other, though susceptible of a good deal of improvement.

Dr. E. Ingals had often advised attorneys not to rely too much on the testimony of experts, and he asked the lecturer whether insanity was a disgrace to the race? Dr. Kiernan did not undertake to answer the question. H. D. V.

NOTES FROM FOREIGN SOCIETIES.

PHARYNGEAL TUBERCULOSIS.—Dr. Millard presented to the Société Médicale des Hopitaux, in December last, anatomical specimens from a young man who recently died of miliary tuberculosis at the age of 17. Patient died of starvation after a month's agony; the sufferings caused by the ingestion of food were such that natural deglutition and the introduction of Fancher's syphon had been impossible. Dr. Millard vainly tried to feed the patient through a flexible sound passed through the nostril. Patient died without any perceptible sound in chest other than a weakening of the respiratory murmur.

At the autopsy there were deep lesions in the velum palati, the pharynx and the epiglottis. The tongue and larynx were sound. The intestines were covered with tubercular granulations and ulcerations. The lungs contained recent tubercular lesions which accounted for the absence of pulmonary râles during life. There were some miliary tubercles in the kidneys, but none in the genital organs. This was a striking type of generalized miliary tuberculosis, having terminated in pharyngeal tuberculosis.—*La France Médicale.*

DILATATION AND SUPPURATION OF THE FALLOPIAN TUBES.—At a meeting of the Pathological Society of London, December 6, 1881, Mr. Lawson Tait related some cases of the conditions termed hydro-and pyo-salpinx. In the first case related there had been dysmenorrhœa for three years. On each side of the uterus was a hard tender mass. Abdominal section was performed, and the ovaries and appendages, which were inflamed and glued together, were removed. In the second case also there was intense dysmenorrhœa. The ovaries were enlarged, and the uterus was large and tender; the ovaries and Fallopian tubes were removed by abdominal section, and the patient made a good recovery. The third specimen was removed from a woman who for five years had been constantly ill; the ovaries and appendages were removed, and the patient made a speedy recovery. The fourth specimen was one met with in the course of an ovariotomy for cystoma. The nature of the cyst was obscure, but it seemed a dilated Fallopian tube. The fifth specimen was taken from a woman who had had an attack of pelvic inflammation, and for years afterwards suffered from dysmenorrhœa. A good recovery followed removal of the ovaries and appendages by abdominal section. The sixth specimen was from a young woman with dysmenorrhœa and menorrhagia. Removalof the ovaries was at first declined, but in August last the distended ovaries and appendages were removed. This patient also recovered rapidly and well. Another patient had suffered for many months from constant pain, aggravated at the menstrual period. In October last the ovaries and appendages were removed. The Fallopian tubes both contained a large quantity of pus. A good recovery ensued. In another case

there was a clear history of pelvic peritonitis, followed by dysmenorrhœa. The distended Fallopian tubes and the ovaries were removed, and the patient made a good recovery. In another case there was a history of acute pelvic peritonitis, and subsequently dysmenorrhœa and menorrhagia became prominent symptoms. The Fallopian tubes, which were distended with purulent fluid, and the ovaries, which were large and soft, were removed. She also made a good recovery. Summing up the result of his experience, Mr. Tait said that a history pointing to an attack of pelvic suppuration, with the subsequent development of dysmenorrhœa, and frequently of menorrhagia, and of pain on intercourse was generally to be obtained in these cases. By physical examination, sausage-shaped tumors could be discovered behind or on each side of the uterus. The enlarged tubes were generally firmly attached to the uterus, and their removal was often a matter of considerable difficulty, so that the operations were often very tedious. He had now performed the operation twenty-two times, and all his patients had recovered from the operation, and had subsequently been free from any symptoms. He thought that all the cases owed their origin to pelvic peritonitis, with adhesion of the Fallopian tube to the ovary, and its consequent occlusion. In one other case, which was not operated on, death was due to rupture of the right Fallopian tube into the peritoneum; this set up severe peritonitis. The operation was followed by cessation of menstruation and by sterility.—*British Medical Journal.*

NUMBER OF PHYSICIANS.—According to calculations made by the Medical Academy of Paris, there are at present 189,000 doctors scattered over the world. Of these there are 65,000 in the United States; 26,000 in France; 32,000 in Germany and Austria; 35,000 in Great Britain and its colonies; 11,000 in Italy, and 5,000 in Spain. Putting aside pamphlets and memoirs innumerable, it is estimated that 120,000 works have been published on medical subjects. Of the writers, 2,800 are American; 2,600 French; 2,300 German and Austrian, and 2,100 English. —*Cincinnati Lancet and Clinic.*

Original Translations.

ARTICLE X.

WASHING OF THE STOMACH.—REMARKABLE EFFECTS OF THE INTERNAL USE OF CARBOLIC ACID IN THE TREATMENT OF FEVERS. Translated for the CHICAGO MEDICAL JOURNAL AND EXAMINER. By AUSTIN C. RAMSBY, Chicago.

Washing of the Stomach.—With the perfection and simplicity of the instrumental outfit, the washing of the stomach is going to take an important part in the practice of medicine. It constitutes a precious resource against affections of the stomach, and all the physicians who have tried it unanimously report happy results.

The instruments for that operation are all well known. The pump of Kusslmaul, the Dujardin-Beaumetz instrument, the Siphon-tube of Fancher, have all been presented to the readers of the *Revue Médicale.* Dr. Fancher's instrument seems to be the best, for two reasons: 1st. The facility of its introduction, which even the patient can do himself after a few operations. 2d. Because most everywhere it can be improvised—for a piece of rubber tubing of 1.50 long and 10 to 12 millimeters in diameter can almost always be had, and every household has a common funnel which can be used. Before speaking of the theraputical indications for the washing of the stomach, we will describe the operation:

The patient should be sitting, the head looking directly forward, at almost a right angle with the vertical column. Some physicians prefer reversing the head backward, in order to introduce the sound vertically.

For pusillanimous patients the dorsal decubitus might offer certain advantages. In the first operation, to establish the habit and overcome the spasms of the pharynx, the use of the rigid sound is preferable; the common œsophagial sound answers the purpose well. But when, after repeating the operation a few times the patient knows how to introduce the rigid sound without pushing it, but by the simple action of deglutition, then the common red rubber tube must be substituted for the sound. The tube must be well oiled. The tube for females ought to be of smaller caliber than for males. A mark on the tube at 45 to 50 centimeters from its free extremity will indicate, when touching the lips, that the stomach has been reached. But this generally is known by a spasm of the cardia, which react to a slight pressure and causes an effort to vomit. Sometimes, but rarely, there is a sudden escape of gases, and of the contents of the stomach; this must be borne in mind in order to protect the patient's clothing. To fill the tube the funnel must be raised one meter above the level of the stomach, and filled with liquid to the amount of from one to two liters; then, by bringing it below the epigastric region, the fluid injected can be seen filling the funnel and holding in suspension the matter contained in the stomach. Dr. Constantin Paul advises the use of cold alkaline water, terminating the operation with warm water. The antiseptics, etc., are highly spoken of.

The operation terminates with the introduction of from 2 to 800 grams of milk in the stomach, and, to prevent the pyloric dilatation, the abdomen must be compressed with a large bandage, or, when possible, have the patient walk for a few minutes.

Such are the details of the operation according to Dr. Paul. We will see now what benefits we can derive from its use.

The washing of the stomach will instantly suppress the pains in cases of neuralgia and chronic gastritis; it will calm the consecutive oppression in cases of dilatation of the stomach.

It stimulates the appetite, and brings a rapid augmentation in weight. Drs. Sée, Bucquoy, Ferrand and Paul, have had surprising results from it in cases of gastritis, hysterical vomiting, dyspepsia, ulcers and cancers of the stomach; in this last, it is true, the relief is only temporary. Dr. Paul has even utilized it in

a case of strangulated hernia, to save the patient the disagreeableness of fœcal vomiting.

Its use in cases of recent poisoning need not be commented upon—*Revue Médicale*..

REMARKABLE THERAPEUTICAL EFFECTS OF THE INTERNAL USE OF CARBOLIC ACID IN THE TREATMENT OF PYREXIAS. By DR. RAYMOND.

It is in the course of typhoid fever, particularly, that Dr. Raymond has obtained happy results from the use of this medical agent, given both in the form of pills and lavements.

Dr. Raymond stated before the Biological Society, that instead of having recourse to the old therapeutical doses of 10 to 12 grams, he prescribed it at the rate of one gram per day, 50 centigrams in three pills, and 50 centigrams in lavement.

Its effects are manifested soon after the taking. Lowering of temperature of from 3 to 4 Centigrade, and a considerable diaphoresis take place, which in a half an hour become intense.

Is this diaphoresis caused by carbolic acid? Dr. Raymond has plainly demonstrated that it is; by injecting ½ of a milligram of duboisia hypodermically he has suddenly stopped the diaphoresis, the lowering of temperature taking place as before. The results are not always identical, being more marked after two or three days of treatment, when it becomes more rapid and energetic in its effects.

Such splendid success made him bold. He raised the dose from one to two grams, given as in the first dose, and he noticed signs of poisoning, dropping of temperature to 34°, convulsions, darkening of the urine. How can we justify, in the presence of such facts, the doses of 10 to 15 grams, which we used to administer in the past?

Dr. Raymond tried to use the carbolate of sodium for carbolic acid, giving that salt at the rate of 1 gram in 50, with the precaution that, according to Hallopeau, the patient must be kept under the constant influence of the drug. The same happy results were obtained, with the addition of this: that it

never exposes the patient to the poisonous effects of pure carbolic acid mentioned above. Carbolic acid is a very efficient agent in the treatment of contagious fevers, but its action is merely to reduce the temperature; in typhoid, for instance, it does not modify in any way the development of the different stages of the disease.

Given in form of lavements of 50 centigrams, and topically with the solution at 1-50, it is said to give excellent results in erysipelas.

In an operation for empyema, there was injected, by mistake, into the pleural cavity one liter of carbolic acid solution of 1.20; there was a sudden dropping of the temperature to 34°, and for nine days the urine of the patient was of dark color, notwithstanding the use of the sulphate of sodium. A fact worthy of notice is, that in tuberculosis, a non-contagious disease, carbolic acid has no influence over the fever.

As to the physiological mode of action of this agent, particularly in typhoid: It is not, according to Dr. Raymond, in its influence of immediate contact with the seat of the lesions that it must be looked for, because the carbolic acid is decomposed long before it reaches the lower part of the alimentary canal. The fall in the temperature is in this case of nervous origin, resulting from an action of carbolic acid on the great cells of the anterior cornua of the cord, produced through the medium of the vascular system, and, in the meantime, while this is manifested by a fall of temperature, it affects the whole of the sudorific gland. The appearance of convulsions, when too large a dose has been taken, is another point in favor of this hypothesis.—*Le Medicin Practicien*, July 30, 1881.

ON THE USE OF PHOSPHATE OF LIME IN THE TREATMENT OF CHRONIC BRONCHITIS. By DR. V. BRIDALLET. (*Revue Médicale, Feb.* 25, 1882.)

Phosphates, and particularly phosphate of lime, are so often used in the practice of medicine that I think it my duty to report a very remarkable recovery brought on by them.

In August, 1879, I was consulted by a young man, æt. 18, suffering from what had been pronounced by other physicians chronic bronchitis. A very careful examination confirmed the above.

Panting on the least exercise, violent and repeated coughing, more severe in the morning, abundant expectorations, loss of appetite and vomiting, the patient was very weak, extremely lean and complained of violent headaches. Percussion revealed nothing peculiar. On auscultation, rough breathing in the infra-clavicular region and under the scapula behind; over the infra-mammary region very marked sibilant râles covering the vascular murmur, pulse weak and frequent, temperature below normal.

The above symptoms pointed to a more serious state of affairs than is generally met with in the average case. Here we had chronic bronchitis, complicated with a very advanced stage of cachexia.

I analyzed the urine of 24 hours; the result was: Urea, 11 grams; uric acid, appreciable; sugar, traces; phosphate of lime, 5 grams—50.

The treatment had been rational up to that time: wine of cinchona, cod-liver oil, tar, soothing syrups. The same was continued, adding the milk diet, about two liters per day.

In November no change for the better had taken place. A second analysis of the urine revealed: Urea, 14 grams; uric acid, 45 centigrams; sugar, traces; phosphate of lime, 6 grams—40.

The patient was excreting an excess of phosphates. The results obtained from the treatment were insignificant. The urea had increased but the patient was losing his phosphate of lime, and the headaches were more severe. In May of the next year I saw him; he was entirely discouraged. I continued the milk and cod-liver oil, but in doses of one tablespoonful a day, adding the phosphoric treatment, giving Reinvillier's syrup of phosphate of lime, one teaspoonful three times a day (equivalent to 9 grams), and daily frictions with phosphorated oil. I prescribed a trip to the country.

After three months of country air, of Reinvillier's syrup, of frictions with phosphorated oil, I saw the patient; the cough had diminished considerably, the headaches were less severe and less

frequent, and the patient could indulge in long-continued outdoor exercise. The same treatment was continued, and in January, 1881, the cough and headache had disappeared, ascultation revealed a normal respiration and sounds, the expectoration was insignificant, the appetite was normal. A third analysis of the urine revealed no traces of sugar, urea and uric acid in normal proportions, and the enormous loss of phosphate of lime had stopped. I discontinued the milk, cod-liver oil and the frictions, but to assure a complete recovery, I continued Reinvillier's syrup for three months at the spoonful a day.

I saw the patient since and he is in perfect health.

This is another proof of the great value of phosphate of lime as a reconstituent, and of the significance of dephosphatization in most chronic diseases.

THE NIGHT MEDICAL SERVICE.—Brooklyn is just about to put into effect within her limits the statute in regard to the organization of a night medical service, such as has now been in operation in this city for one year. This service is in every respect a good thing—an important and almost indispensable contribution to the organization of the night life of a city. As the official report for the year recently made here showed, it has kept, as to expenditure, well within the limits of the very reasonable appropriation made; it has enabled a number of persons taken suddenly ill with distressing maladies to obtain immediately skillful medical attendance, and it has proved a welcome provision to the doctors who were called, as well as to those who, through this law, were freed from the common importunity to which doctors in cities are nearly always exposed, to go out at night and attend sick persons whom they do not know, and who cannot pay a fee. In every city, things would be better for the organization of such a service.—*Medical Gazette.*

Reviews and Book Notices.

ARTICLE XIII.—A PRACTICAL TREATISE ON IMPOTENCE, STERILITY, AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By SAMUEL W. GROSS, A.M., M.D. Philadelphia: Henry C. Lea's Sons & Co. 1881.

Dr. Gross has grouped together a large number of cases of disease of the male sexual organs, and gives us abundant opportunity to examine the evidence pro and con to substantiate the theories he advances.

In the opening paragraph of the preface, he boldly announces the proposition he endeavors to prove throughout the brochure. He says, concerning impotence and spermatorrhœa: "According to my observations, they usually depend upon reflex disturbances of the genito-spinal center, and are almost invariably induced or maintained by appreciable lesions of the prostatic portion of the urethra, etc." He has observed 137 cases of impotence induced by inflammation and hyperæsthesia of the prostatic portion of the urethra, and twelve cases from diminished or abolished reflex excitability of the genito-spinal center. He claims the latter cases occur in a class of subjects in whom the reflex excitability of the genito-spinal center is induced before prostatic inflammation declares itself, yet in nine of these cases strictures were formed. The question naturally arises, if prostatic inflammation and hyperæsthesia induce impotence, may not prostatic inflammation and subsequent anæsthesia, instead of the genito-spinal centers being impoverished, have produced the impotence in the twelve cases referred to?

The ground that masturbation frequently produces a stricture seems well taken, and proven by abundant authority.

The author divides the book into four chapters: I. Impotence; II. Sterility; III. Spermatorrhœa; IV. Prostatorrhœa. Impotence he subdivides into atomic, psychical, symptomatic and organic. Sterility, he argues, is due to azoöspermism, aspermatism and misemission. There are sixteen illustrations.

J. A. R.

ARTICLE XIV.—LECTURES UPON DISEASES OF THE RECTUM AND THE SURGERY OF THE LOWER BOWEL. By W. H. VAN BUREN, M.D., LL.D., Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College. New York: D. Appleton & Co. 1881.

This work is the second edition, considerably improved and enlarged over the previous edition. It certainly deserves the place of being the most recent and intelligent work we have on the diseases of the rectum and their treatment.

J. A. R.

ARTICLE XV.—THE NATURE AND TREATMENT OF RABIES OR HYDROPHOBIA. Second Edition. By THOMAS M. DOLAN, L.R.C.P., etc., Physician to the Halifax Hospital.

An elaborate collection of the literature of the subject, with an hundred and fifty cases detailed as to clinical history and post-mortem examination. The results of various modes of treatment are compared. Modification of the disease by temperament and physical condition receives much attention.

The little book is a valuable one for reference in the history of the subject, and a useful one to the busy physician.

ARTICLE XVI.—POSOLOGICAL TABLE, Including all the Officinal, and most frequently employed Unofficinal Preparations. By CHARLES RICE, Chemist, Department of Public Charities and Corrections. N. Y.: William Wood & Co.

A handy little book for the prescription counter or the pocket. The doses given in the usual apathecaries' system are easily converted to the metric by tables appended.

ARTICLE XVII.—OPHTHALMIC AND OTIC MEMORANDA. By D. B. ST. JOHN ROOSA, M.D., and EDWARD T. ELY, M.D. Revised Edition.

This little work aims to give but a bare outline of the subject of which it treats, a sort of dictionary of ophthalmic and aural science. As such it is very good.

ARTICLE XVIII.—A NEW FORM OF NERVOUS DISEASE, TOGETHER WITH AN ESSAY ON ERYTHROXYLON COCA. By W. S. SEARLE, A. M. M.D.

The author describes at length a nervous disease which he has been unable to classify, characterized by a sensation of sudden shock, or blow, or explosion in some part of the head, usually the occipital region, and sometimes preceded by something similar to the aura of epilepsy, almost uniformly accompanied by intense vertigo, without convulsions or frothing at the mouth, or dilated pupils. No drowsiness or mania follows the attack; loss of consciousness rarely occurs. The author quotes from Hammond, Nothmayl and others that it is not epilepsy nor epileptiform, and denies it to be Beard's neurasthenia.

The essay on erythroxylon coca is very complete and interesting, the author believing that for nerve waste and excessive fatigue this is the remedy *par excellence.*

ARTICLE XIX.—THE STUDENT'S DOSE BOOK AND ANATOMIST COMBINED. By C. HENRI LEONARD, A.M., M.D., Professor, Medical and Surgical Diseases of Women, Michigan College of Medicine.

The most complete and compact collection of things useful to the physician, surgeon or student, we have seen.

ARTICLE XX.—SEA AIR AND SEA BATHING. By JOHN H. PACKARD, Surgeon to the Episcopal Hospital, etc.

This little manual for those who resort to the sea-shore, is comprised in ten short, attractive chapters, on general considerations of seaside resorts: bathing in the sea; accidents in bath-

ing; sea bathing for invalids; amusements at the sea shore; cottage life; sanitary matters; the sea-shore as a winter resort, and excursions to the sea shore. P. Blakiston, publisher.

ARTICLE XXI.—THE SCIENCE AND ART OF MIDWIFERY. By WILLIAM THOMPSON LUSK, A.M., M.D., Profcssor of Obstetrics and the Diseases of Women and Children in the Bellevue Medical College, etc., etc. With numerous Illustrations. 8vo. cloth, pp. 687. New York: D. Appleton & Co. 1882.

One of the best treatises on obstetrics, finely illustrated, and issued in the accustomed style of the books published by the Appletons. It is one of the first works on the subject by American authors, and should on that account become the accepted text-book in most of our colleges. Of course such a work cannot exhibit a great deal of originality; the one under consideration is especially remarkable for its well-sifted literature, appropriately chosen illustrations. and its scientific data above all. It is also better adapted to this country than any other.

ARTICLE XXII.—THE SYMPATHETIC DISEASES OF THE EYE.—By LUDWIG MAUTHNER, M. D. Translated from the German by Warren Webster, M. D., and James A. Spalding, M. D. New York, William Wood & Co. 1881.

We fully agree with the translators in saying that there is an urgent necessity for general practitioners to have a clear and reliable description of the multiform symptoms, and the treatment of sympathetic ophthalmia, so that they may at once recognize its presence, and act accordingly. But we seriously doubt whether Mauthner has succeeded in furnishing to the profession the desired book.

Books for the busy practitioner must impart the greatest amount of information in the fewest possible words; concise language and brevity are their greatest merits, prolixity of style is their worst fault. But that is just the fault we find in all of Mauthner's writings, that he often fails by the multitudes of words to convey clear ideas to the reader.

So in his present book, though it is the best, completest compilation ever published on sympathetic diseases of the eye, and highly interesting for the specialist, the statements of facts and the descriptions are so often interpolated by theoretical digressions that its value as a ready reference book for the busy practitioner is seriously impaired.

ARTICLE XXIII.—A TREATISE ON THE DISEASES OF THE EYE, By HENRY D. NOYES, A. M., M. D., Professor of Ophthalmology and Otology in Bellevue Medical College; Surgeon to the New York Eye and Ear Infirmary, etc. New York, William Wood & Co., series 1881.

The difference in the styles of the German and American medical authors could not be better illustrated than it is in Mauthner's and Noyes' books. Both authors set out for the same goal of writing a book for the instruction of practicing physicians. Although their works are of a different scope, the manner in which they acquitted themselves of their respective tasks, is very characteristic. Mauthner, selecting one single subject, spins out his lecture by prolixity and theoretical dissertations to a book of considerable size. Noyes, going over the whole field of ophthalmology, was so fearful lest his book should exceed the prescribed limits and convenient size, that he excluded religiously all superfluous discussions and everything non-essential to his practical end. And we fully agree with his view that a text-book for students and practitioners is not the proper ground for discussing the pros and cons of open questions and new theories.

The reader will find Noyes' book remarkably free from such digressions, and, therefore, derive more pleasure and benefit from its perusal than he is accustomed to receiving from ophthalmic works. The author's style is exceedingly lucid and concise, his views upon the merits or demerits of medical or surgical treatment, as the case may be, are couched in such definite language that there can be no doubt about his position.

There are, of course, some imperfections in the work, (for what book could be pronounced absolutely faultless?), which, however, with one or two exceptions, are, perhaps, only a matter

of judgment. Possibly, we attach greater value to the practical importance of certain affections, than the author was disposed to do. For instance, we failed to find any reference to seborrhœa of the tarsal borders, which disorder is often so annoying, and the occasional cause for such loud complaints on the part of the patient, that it should be considered in a text book. We also should have given that peculiar phlyctenular inflammation of the cornea, known as fascicular keralitis, greater prominence, and we should most decidedly have incorporated in a treatise for practitioners Dr. Kipp's valuable description of malarial keratitis. But, as we said before, these omissions may be accounted for by a difference of judgment, and they do not mar the general excellence of the book.

A strange mistake, however, occurs in the chapter on entropium. The text describing the operation for this deformity and the fig. 67, illustrating the procedure, are at war with each other, the illustration picturing one method and the text being a descriptive compound of two operative procedures which widely differ from each other in all essential features.

We mention these defects, not because we wish to be hypercritical, or to detract anything from the value of the work, but simply for the purpose of bringing them to the notice of the author, and we hope he will soon have an opportunity of eliminating these blemishes in a new edition of his otherwise excellent text-book. F. C. H.

ARTICLE XXIV.—ILLINOIS STATE MEDICAL SOCIETY—TRANSACTIONS. 1881.

A pretty octavo volume of 362 pages, bound in cloth, and beautifully printed. It contains many valuable papers, several of them remarkable for their originality and practical value; such, for instance, is the article of Dr. E. Fletcher Ingals on "Laryngeal Tumors." Some of the reports, as that on "Ophthalmology and Otology," by Dr. F. C. Hotz, are almost perfect in their way.

"Dysmenorrhœa," by Dr. Ellen A. Ingersoll, contains many different views from those long accepted, yet her hints are so plausible, and well sustained by her own practical experience,

that her paper will remain one of the best, and one which should be often referred to.

"The Present Status of Specialism in Medical and Surgical Practice," a spicy criticism by Dr. A. Reeves Jackson, enlivened its auditors at the annual meeting, and is certainly the most readable of any contribution to the present Transactions.

It would be difficult to qualify each article in the appropriate manner, for they are all worthy of praise, and they furnish to the busy practitioner an epitome almost of what is at present known in the various departments of medicine and surgery.

ARTICLE XXV.—GENERAL MEDICAL CHEMISTRY, FOR THE USE OF PRACTITIONERS OF MEDICINE. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry and Toxicology in the Medical Department of the University of Vermont; Professor of Physiological Chemistry in the Medical Department of the University of the City of New York; Member of the Chemical Societies of Paris and Berlin, etc. etc. 8vo, cloth, pp. 448. New York: William Wood & Co. 1881. (Wood's Medical Library.)

This is perhaps the best book in the series of 1881, and is unique in more than one respect. It supplies a want long felt by the medical profession in this country, and is so complete as to be as useful to chemists and professors of chemistry as to ordinary students.

The various organic compounds are treated of at greater length than in many text-books, forming, under the name Compounds of Carbon, more than half the present volume, which is thereby likely to help the manufacturing chemist and the toxicologist to a great extent. Chemical philosopy is treated of in a masterly manner, and the same can be said of the tests and reactions of each element.

In fact, this book does honor to a Library of Standard Medical Authors, and will induce some, doubtless, to buy the whole series, in order to possess a good text-book of medical chemistry.

ARTICLE XXVI.—ILLUSTRATIONS OF DISSECTIONS, in a Series of Original Colored Plates, the Size of Life, Representing the Dissection of the Human Body. By GEORGE VINER ELLIS, Professor of Anatomy in University College, London, and G. H. FORD, Esq. (Reduced on a uniform scale.) Vol. I, Second Edition. 8vo, cloth, pp. 233. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors.

It seems that in issuing the present volume, the publishers desired to improve yet on former series. The plates, twenty-eight in number, are beautiful lithographs, and very accurate. The coloring is as well executed as we should expect in a work of this character, and the descriptions are full and accurate. One cannot easily understand how such valuable works can be given away at such low prices, and few practitioners now can afford to be without Wood's Library.

ARTICLE XXVII.—ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE. By HENRY HARTSHORNE, A.M., M.D., Editor of American Edition of "Reynold's System of Medicine," etc. Fifth Edition, thoroughly Revised and Improved, with 144 Illustrations. 12mo. cloth, pp. 669. Philadelphia: Henry C. Lea's Son & Co. 1881. Chicago: Jansen, McClurg & Co., 117 and 119 State Street.

Probably no book on the Practice of Medicine has ever enjoyed the popularity of this one. A small book, or rather a monograph, a few years ago, it has rapidly evolved into a respectable handbook, which the reviewer has met on the table of every busy physician, and their verdict always has been: An indispensable book. No work ever exhibited a better average of actual practical treatment than this one; and probably not one writer in our day had a better opportunity than Dr. Hartshorne for condensing all the views of eminent practitioners in a 12 mo. The numerous illustrations will be very useful to students especially. These essentials, as the name suggests, are not intended to supersede the text-books of Flint and Bartholow, but they are the most valuable in affording the means to see at a glance the whole literature of any disease, and the most valuable treatment.

The 377 prescriptions at the end of the volume are very well selected, but we hope the next edition will have them translated into the Metric System at the same time with the old, as this lack is the sole defect of the entire work.

ARTICLE XXVIII.—A MANUAL OF HISTOLOGY, Edited and Prepared by THOMAS E. SATTERTHWAITE, M. D., of New York, in association with Drs. THOMAS DWIGHT, J. COLLINS WARREN, WILLIAM F. WHITNEY, CLARENCE J. BLAKE, and C. H. WILLIAMS, of Boston; J. HENRY C. SIMES, of Philadelphia; BENJAMIN F. WESTBROOK, of Brooklyn; EDMUND C. WENDT, ABRAHAM MAYER, R. W. AUNDON, A. R. ROBINSON, W. R. BIRDSALL, D. BRYSON DELAVAN, C. L. DANA, and W. H. PORTER, of New York City. With 198 Illustrations; 8vo., cloth, pp. 478. New York: William Wood & Co. 1881.

This is a carefully prepared volume, likely to meet the demand for such works, which, of late, are becoming rather numerous. However, a little economy in *blanks* and *interlines* had been to the advantage of the buyer. Histology is the most neglected, and the least practical branch of medicine, besides involving unprofitable expenses; yet the returns have not been fruitless in late years, and it is quite desirable that the present generation of students should pay some attention to it, for it is generally in the new fields that discoveries are made. As a pastime, none, perhaps, can compare with the use of a good microscope in the hands of a physician of some learning. Within a few years, microscopes have become cheaper and cheaper, so that good home-manufactured instruments may now be bought for a hundred dollars, which is yet too dear a luxury for most students, though indispensable to the practitioner. We would recommend the "Manual of Histology" to any physician or student who desires to be proficient in the medical sciences.

ARTICLE XIX.—THE HEART AND ITS FUNCTION forms one of the series of Health Primers published by D. Appleton & Co., and like the others, is brief, simple, and elementary in statement, suitable for the guidance of intelligent adults.

ARTICLE XXX.—A SYSTEM OF SURGERY, THEORETICAL AND PRACTICAL. In Treatises by Various Authors. Edited by J. HOLMES, M. A. First American, from Second English Edition, Thoroughly Revised and Much Enlarged by JOHN H. PACKARD, A. M., M. D., Assisted by a large corps of the most Eminent American Surgeons. In Three Volumes, with many Illustrations. Vol. II, 8vo., half Russia, pp. 1063. Philadelphia: H. C. Lea's, Son & Co. 1881.

The present volume, issued soon after the first, treats of Diseases of the Eye, Ear, Nose, Tongue, the Circulatory System; the Absorbent System; the Mouth, Teeth, Intestines, Rectum; Hermia; Diseases of the Genito-Urinary Organs; Surgical Diseases of Women. This last is by Jonathan Hutchinson. Among the American revisers are J. Solis Cohen, Lewis A. Stinson, James Truman, D. D. S., J. H. C. Simes, John H. Packard, Edward L. Keyes, etc. The illustrations are 309 in number, and four lithographs. The second is not inferior to the first volume, and deserves the patronage of the profession, the world over. The rapid specializing of the various branches of surgery, together with their enormous increase in our day, have rendered it impossible henceforth for any surgeon to write an intelligent text-book on the subject, so that the book here presented is indispensable for ordinary physicians as much as for specialists, and all those practitioners who are made to feel the pressing necessity of keeping up with the rapid advance in surgery. We wish the proof-reader to be more careful in his treatment of the last volume. H. D. V.

THE Woman's Medical College of Baltimore has recently been incorporated. The course of lectures will begin October 1, 1882. Seven professors, all of them gentlemen, have already been appointed.

Editorial.

ARTICLE XXXI.

THE NEW YORK STATE MEDICAL SOCIETY AND ETHICS.

Most of our readers have probably learned before this time that at the annual meeting of the Medical Society of the State of New York, in February last, a revised code of ethics was adopted for the government of that society, and of such county medical societies as were eligible to representation in the State society. The revised code was reported by a committee appointed the year previous, and consisted substantially, and to a great extent literally, of those parts of the code of the American Medical Association which relate to "the relations of physicians to the public," and "the relations of physicians to each other," with "the rules governing consultations."

Under the two first heads there is nothing in the revised code that in the least contravenes the letter or spirit of the national code. But under the head of "rules governing consultations" there are three important deviations from the code of the American Association. The first two are contained in the following paragraph, which has been substituted for section 1 of Art. IV, of the duties of physicians in regard to consultations:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, *may meet in consultation legally qualified* practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

If the reader remembers that in New York, as in this State, the words "*legally qualified practitioners*" mean any and all persons who have received a license from the State Board, whether

they call themselves homœpaths, eclectics, hydropaths, or some other *paths*, he will see at once the leading object of the *revisors*. The adoption of the legal qualification or simple State Board license as the standard, and the omission of the clause declaring the unfitness of those "whose practice is based on an exclusive dogma," open the way fully for unrestrained consultations with those practicing every species of *pathy* and *ism* extant. The third deviation from the national code is embraced in the following paragraph: "In case of acute, dangerous or obscure illness, the consulting physician should continue his visits at such intervals as may be deemed necessary by the patient or his friends, by *him*, or by the attending physician." Here is a latitude given for the continued attendance of a consulting physician after having once been called, which should certainly satisfy the most aggressive consultant in New York, or elsewhere.

He is not to be guided in the repetition of his visits by the request of the attending physician, as has been hitherto deemed honorable and just; nor yet by the request of the patient or his friends; but he is to go as often as his own judgment, ambition, or avarice may dictate. It would be difficult to construct a rule more unjust to the attending physician, more open to the grossest abuses, or better calculated to deter the attending physician from suggesting council in the first instance.

We cannot but regard this attempt on the part of the New York State Society to encourage its members to repudiate some of the more important features of the national code, by opening the door to free intercourse with and recognition at the bed-side of every exclusive dogmatist who may be able to procure a license from a State or county board of examiners, or from some kind of chartered medical institution, as most unwise, ill-timed, and injurious both to the interests of the profession and of the community. It is unwise, first, because no good can come to the sick from the introduction of discordant elements into consultations at the bed-side; second, because it directly encourages the practice of hypocrisy and fraud, just where strict integrity and faithfulness is most needed; for either the exclusive dogmatist or the rational physician must consent to dissemble his real convictions and agree to carry out views and practices in which he has no

faith, or there can be no agreement; and third, because the step taken is directly calculated to encourage and perpetuate in the minds of the non-professianal public the gross and radical error that legitimate medicine is only *one* of the numerous schools, creeds, or dogmas, distinguished from the rest chiefly by having a more numerous following.

The action of the New York Society was exceedingly ill-timed, because it was taken when it was apparent to every well informed observer, that the followers of Hahnemann were rapidly abandoning their adherence to the distinctive features of homœopathy, and in numerous instances, dropping their distinctive name; and it only required the maintenance of an unbroken adherence to the time-honored and just ethical rule that "no one can be considered a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession," to have substantially banished the name of homœopath before the end of another generation. The two principal arguments presented by the advocates of the change were "that on grounds of common humanity, it was wrong to refuse skilled services to suffering when in need," and that "it was illiberal and ungenerous, and inconsistent with the spirit of the age, to withhold professional aid from other practitioners simply because they were of a different creed or belief." Both these rest on assumed fallacies, and lead directly to false inferences. The first assumes that a refusal to recognize and consult with an exclusive dogmatist is necessarily a refusal to extend skilled service to the suffering when needed. The assumption here is too plainly false to need illustration.

If a man gets sick, and *voluntarily* takes refuge behind a polecat, and then sends for me to come to his aid with my professional skill, at the same time keeping himself in such a position that I cannot reach him without getting sprinkled with the odoriferous secretion of the polecat, do I *refuse* to extend skilled services to the suffering, when I say to the sick man, you must sever your relations to the polecat before I can come to your aid, knowing that he can make such severance any moment he chooses? It is not only the right, but the duty of every man capable of rendering skilled services to the suffering, to attach such condi-

tions to the rendering of such services as will both preserve his own honor and ensure from those services the greatest benefit to those on whom they are bestowed.

The pretense that it is illiberal and contrary to the spirit of the age to withhold professional aid from other practitioners, *simply* because they were of a different *creed* or *belief*, is based on the plainly implied fallacy that legitimate medicine of the present day is only a *creed* or *belief*, *differing*, it may be, from other creeds or dogmas, but nevertheless a creed. Here is the fundamental error of all the advocates of the so-called *liberal* policy of the New York revisors. Instead of recognizing the all-important fact that the medical science of the present day is neither a creed nor a bundle of dogmas, but all that part of the domain of general science that relates to a knowledge of the structure and functions of the human body in health and disease, and of those agents and influences capable of modifying such structures and functions, they are constantly using expressions countenancing the public error that legitimate medicine is only one of numerous systems, schools or creeds. They seem to forget that legitimate medicine is inherently and necessarily liberal, neither knowing nor recognizing creeds, sects or isms. Her field is as broad as the domain of human knowledge and the existence of human suffering; and whoever chooses to enter that field under the simple title of doctor of medicine enjoys the most perfect liberty of thought and action. He selects his remedies from any source he pleases, applies them in accordance with any principle his own judgment approves, and in any dose which he thinks best calculated to benefit his patients. Consequently he is in a condition to meet and consult with all who are pursuing the same calling on the same broad platform. But when a man adopts a special and exclusive principle or dogma for his guidance, whether it be the law of *similars* or of *attenuations;* or a particular remedy or class of remedies for the cure of all diseases, he becomes of necessity exclusive and illiberal. By adopting his special dogma, and a distinctive name in accordance therewith, he at once voluntarily severs himself from the great body of medical practitioners, and literally notifies all the world, by the title he

assumes, that his practice is regulated by the exclusive dogma indicated in such title. He cannot be liberal enough to meet other physicians on the open field of therapeutic inquiry, without belieing his title and placing himself in the attitude of a dissembler or hypocrite. The distinctive title he assumes must either express his honest convictions concerning the proper method of practice, or it becomes a standing lie to the public.

But the man who assumes a distinctive name indicating his adherence to a special system or dogma, not only voluntarily severs himself from the great body of practitioners, but he necessarily places himself in antagonism to that body, and gives his whole influence to the creation and maintenance of a sect or party which serves to distract public attention, create false impressions concerning the nature of the profession, and to interfere with all proper and just legislation on medical and sanitary interests. In other words, when a man adopts an exclusive dogma and a name indicating it to the public, he voluntarily fences himself within a narrow enclosure of his own construction; and neither the interests of humanity, the cause of true science, nor the honor of the profession require any physician to climb over, creep through, or crawl under the fence he has thus erected, to consult with him for any purpose whatever. And yet this is just what the modern revisors of our code of ethics in New York propose to do. Their position is untenable in every aspect in which it can be viewed, and is not sustained by the action of any other respectable body of medical men in Europe or America. If the followers of exclusive dogmas or their patrons wish for consultations, let them drop their distinctive names, come out of their self-constructed narrow pen, and take their place on the common platform of medical science simply as doctors of medicine and honorable men. Until they do this, no physician can meet or consult with them at the bedside, without compromising his own self-respect, and inflicting a positive injury on the cause of true science and humanity.

ARTICLE XXXII.

TO THE MEDICAL PROFESSION.

"The *Pharmacist* desires to know what is your code of ethics, —to what are you willing to subscribe? We were formerly somewhat certain of what your code of ethics was, but recently we have had so many of the old pillars of the "æsthetic" structure rudely demolished that we have to ask for information as to the portion that does remain. Does your code of ethics forbid you to prescribe a patent medicine—a medicine the working formula of which is unknown, the ingredients of which in their *exact* proportion is not known? A medicine, the name of which can be used only by one manufacturer?

"Is it in accord with your code of ethics to prescribe Listerine, Safoline, Purifinis, Bromo-Chloralum, Lactopeptine, Firwein, Diptherine, Dextro-Quinine, Bromidia, Iodia?

"Is it necessary for you, in order to conform to the code of ethics, to know what is in the medicine you prescribe? If so what are the ingredients of any or all of the ten articles mentioned above? Could you and a practical pharmacist produce the same by applying all your knowledge of it together with his pharmaceutical knowledge?

"If not necessary to know what you are prescribing, is it contrary to the spirit of the code of ethics to prescribe Jayne's Expectorant, Bull's Sarsaparilla, Helmbold's Buchu, Injection Brou, Tarrant's Extract of Cubebs and Copabia, Warner's Kidney and Liver Cure? If this is not contrary to your code of ethics, why do you object to the druggist selling them?

"The *Pharmacist* truly states that it does not know on what code of ethics the medical profession stands, and is all at sea when it attempts to set a bound beyond which the medical profession will not go.

"Gentlemen, is this not true? and is it not your duty to help your brother profession to the extent of defining your position?'
—*Pharmacist and Chemist.*

In reply to the above numerous questions asked by the *Pharmacist and Chemist*, of this City, we answer, emphatically, that both the Code of Ethics and the *Code of Common Sense*, *do forbid* the prescribing of any "patent medicine,"—or medicine "the working formula for which is unknown,"—or, "the name of which can be used only by one manufacturer."

In other words our professional Code of Ethics is strictly opposed, both in letter and spirit, to all use of patents, trade marks, copy-rights, or secret processes in the manufacture and sale of medicines to be used for the treatment of disease. We do not knowingly use medicines thus restricted, and for years have refused even to look at them when thrust before us by the numerous agents traveling over the country with their *elegant* samples.

There is but one plain, honest, scientific rule for the guidance of both physician and pharmacist; namely, the former while at the bed-side of his patient, should determine with careful discrimination, not only the exact composition but also the relative proportion of each constituent of the prescription he makes, that both may be accurately adjusted to the wants of the individual patient, while the latter should exercise all his skill in the direction of furnishing pure medicines of standard strength, and in forms most reliable for preservation and convenient for use. The whole modern flood of proprietary medical compounds, is, to the community, a most expensive luxury, and to the medical profession a positive nuisance.

MASTURBATION.—Dr. William A. Hammond, in a letter to the *Louisville Medical News*, says that masturbation is "a vile, vicious, degrading and demoralizing practice, that no one could be guilty of without self-abasement," but that so far as the generative organs are concerned; so far as the physical effects go, it is "no more injurious than a corresponding amount of sexual intercourse. Young men and boys injure themselves by the act, because the facilities for performing it are greater than they are for indulging in sexual intercourse." Prof. Hammond is an authority on this subject, and his assertions will set at rest many disquieted minds.

Abstracts.

A MODIFICATION OF LISTER'S ANTISEPTIC DRESSING.* By JAMES L. LITTLE, M.D., Professor of Clinical Surgery in the University of the City of New York; Professor of Surgery in the University of Vermont, etc.

Although having full confidence in Mr. Lister's antiseptic method, I, like many others, have long recognized the great difficulty that must needs be experienced by the general practitioner in attempting to carry out the minute details of the dressing, and have for a long time been hoping that a more simple method, equally efficacious, might be devised.

Dr. Markoe's "through drainage" was a decided step in this direction—antiseptic in character, simple in detail, and successful in result. This method, however, is appropriate only where drainage is necessary, but, simple and efficient as it is, it requires a certain degree of attention, which, while easy for the hospital surgeon, is not sufficiently so to guarantee its extended use by the physician in charge of a large general practice.

Furthermore, the materials necessary for fully applying Mr. Lister's dressing are somewhat expensive, a very important fact when we consider that the majority of accidents and operations that call for this procedure occur among those who are able to bear but little expense.

I have for several years been surgeon to a large factory in this city, in which three thousand hands are employed, and where injuries by machinery are quite frequent. These injuries consist chiefly of wounds of the hands and fingers, caused by their being

*Read before the New York Surgical Society, November 8, 1881.

caught in the cog-wheels and other parts of the machinery. In many cases the fingers are torn off, tendons are pulled from their sheaths, joints are opened, and the hands are often severely crushed and lacerated. In all of these cases I have, for the past six years, been using the following simple antiseptic dressing: Having put the parts in a condition for dressing, I wash the wound in a solution of carbolic acid of the strength of one to twenty; I then cover the parts with a thick layer of borated cotton, and then snugly and evenly apply a simple gauze bandage. At first I used bandages made of antiseptic gauze, but for the past three years have used those of plain uncarbolized cheese cloth. These thin bandages distribute the pressure more evenly over the cotton, and are more evenly saturated with fluids than those made of unbleached muslin.

The patient is instructed to keep the outside of the dressing wet with a solution of carbolic acid of the strength of one to one hundred. I frequently employ Squibb's solution of impure carbolic acid, which is of the strength of one to fifty, and which, when mixed with an equal bulk of water, gives a solution of the desired strength.

The parts should be kept at rest, and the dressings may be left undisturbed for several days, unless there is pain, rise of temperature, or discharge through the dressings. These conditions are always to be considered indications for re-dressing.

In many cases where rubber drainage tubes have been used they may be removed at the second dressing, and, if catgut has been used for sutures, this second dressing can be allowed to remain on for an indefinite period. In a number of cases of lacerated wounds I have allowed the first dressing to remain on until the wound has entirely healed. In these cases the external use of carbolic lotion was discontinued after the fifth or sixth day, and the dressings would become dry and hard, the wound healing, as it were, "under a scab."

The patient should be instructed to loosen the bandage at once if any pain occurs.

My experience with this dressing covers, as I have said, a period of about six years, during which time I have treated nearly three hundred cases of open wounds. Not one of this

... has been followed by inflammatory symptoms. Extensive ... wounds have healed, and dead tissue has sloughed ... without giving rise to any of the so-called symptoms of inflammation. Neither pain, redness, heat, swelling, nor constitutional disturbance has resulted. In no case has there been reddening of the lymphatics or tenderness of the glands. No counter openings have been necessary. Pain has been entirely absent, so that anodynes have not been needed, save in a single case, and that for one night only, to control slight restlessness.

These results are the more remarkable from the fact that many of these patients were in an unhealthy condition, some suffering from anæmia, some from cardiac disease, phthisis, and the like.

Recently I used this modified dressing in St. Vincent's Hospital, in a case of amputation of the leg. This case did as well as any case could have done under the most rigid Lister dressing.

The value of cotton-wool as an antiseptic dressing is, I think, not fully appreciated by the profession. M. Guérin, of Paris, in 1872, and since then Mr. Gamgee, of Birmingham, England, have called attention to its great value. Used in the way I have indicated, it seems to me to be as perfect an antiseptic dressing as the gauze and other materials recommended by Mr. Lister, while at the same time it is free from all objections that pertain to the latter, and which materially hinder their use by the general practitioner. If applied in sufficient quantities around an open wound, it protects it thoroughly from the "floating matter of the air" which is supposed to be the real inciter of suppuration. It is the best germ filter known to us. Tyndall, whose experiments were very carefully made, found that while filtering the air, and endeavoring to get it perfectly pure, atmospheric dust, which would readily pass through sulphuric acid and a strong solution of caustic potash, was completely stopped by ordinary cotton-wool.

I have used the very excellent borated cotton made by Mr. am Ende, of Hoboken, containing 15 per cent. of boraic acid.*

* A great deal of the so-called borated cotton sold by dealers is made with a solution of borax, instead of boracic acid, which can always be ascertained by burning a piece of the cotton; if the cotton has been properly prepared with boracic acid, the flame is of a bright-green color, but, if, as is generally the case, borax has been used, the flame will show very little of the green tint.

Keeping it wet externally with the solution of carbolic acid, in the manner already described, renders it more surely antiseptic.

To insure success in the cases where the dressing is used, full precautions as to rendering the instruments, sponges, and the hands of the surgeon aseptic, and the use of drainage tubes if necessary, should not be neglected. Catgut or torsion should be used to arrest hæmorrhage. The spray may be resorted to, if thought necessary. At the second dressing, I now usually apply carbolized oil, of the strength of one to twelve, to the wound to facilitate the removal of the cotton, which is otherwise apt to adhere after the first dressing.

I would state, in conclusion, that my experience, thus far, seems to show that this simple dressing, so easy of application, is as thoroughly antiseptic as Mr. Lister's appliances, and that it has the very decided advantage of doing away with the necessity for using costly "protective oil-silk," "Macintosh cloth," "carbolized gauze," etc., and give us a dressing that can be used by any one under any circumstances, be it in the city or in the country. The borated cotton is easily kept for months unchanged. The fact that the dressing need not be done oftener than once in several days will especially commend it to the country physician.

The success of this procedure in the treatment of large wounds after accident or amputation will increase its importance, and materially extend its field of usefulness.

THE POST PARTUM MANAGEMENT OF THE PARTURIENT STATE.

Abstract of a Lecture by WILLIAM M. POLK, M.D., Professor of Obstetrics in the University of the City of New York.

Immediately after labor the condition of the blood, of course, differs little from what it was before that occurrence; but within a short time, within a few hours afterward, it contains a larger proportion of excrementitious material. The large amount of material which before went to the nourishment of the child is no longer used for this purpose, but is turned directly upon the mother's circulation, and as it contains a large amount of fibrin and excrementitious material, it must be gotten rid of by the

excretory organs, else it will act as a poison. The state of the nervous system will differ in different patients acccording to their individual nervous organization. There is always a certain amount of shock consequent upon delivery; the greater the amount of suffering the greater the amount of shock. The shock of labor differs in no respect from the shock which you are familiar with in surgical procedures; of course, however, that of labor, unless that after instrumental delivery, is rarely so great as that after severe surgical operations; but it is simply a difference in degree, not of kind. The shock which occurs after a simple labor, is usually not sufficient to cause any great amount of apprehension, but that which occurs after graver operations, as version or craniotomy, is sometimes sufficient to terminate fatally shortly after delivery. In fact, a number of cases have been recorded in which the sole cause of death was shock which, as already said, was identical with surgical shock. You are therefore to give the patient that attention which will enable her quickly to rally from the effect produced upon her nervous system. Extreme shock, when present, indicated by clamminess of the surface, etc., demands stimulation.

The temperature of the parturient woman should not normally stand higher, during the first two days and a half, than from 98° to 99° F. If it go above that point, say to 100.5° or 101°, and remain there, you may be sure that some septic element is at work, and act accordingly.

About the third day after delivery there is a tendency to a slight elevation of the temperature, because of the incoming of the milk. In some women there will be no elevation of the temperature at this time whatever; in others, there will be rather a decided febrile reaction. The temperature may rise to 100°, or even to 101°. This, if it be due simply to the incoming of the milk, will subside as soon as the milk begins to flow; if it continue a longer time it is rather an indication of some degree of sepsis also.

A word or two with reference to the secretions in general. They are all increased immediately after delivery. You will find that the skin acts more freely than during labor; the flow of the urine is greater. Possibly the alimentary canal will show a dis-

position to act; but, although the excretions by way of this channel may be increased, as a rule, there is no outward evidence of this. The tendency after delivery is to constipation. The reason for this apparently is the habit of most women to constipation during pregnancy, and to the fact that as the child's head passes down through the pelvis it produces a certain amount of temporary paresis of the rectum by pressure. Because of this tendency to inactivity of the bowel after delivery, the old fashion was to administer a cathartic in the form of Epsom salts or castor oil, but the fastidiousness of the women of the present day rather leads them to favor the use of the enema, and since the trouble is chiefly due to inactivity of the rectum itself rather than to other parts of the alimentary canal, this method of relieving the constipation seems to be the more appropriate.

When you return to see the patient after the first twelve hours, make it your rule, as soon as you have felt the pulse, to inquire as to the condition of the bladder. You will find in not a few cases that there is a tendency to retention, even though labor may have been natural, and it is due to pressure of the child's head upon the bladder or the urethra during delivery, producing temporary paresis. If you find that the bladder has not acted, you must, of course, resort to some means to bring about its activity. There is a tendency of the bladder to empty itself at the same time that the rectum does; therefore, it is my rule, on visiting the patient twelve hours after confinement, and finding the bladder has not yet acted, to tell the nurse to administer an enema, using, if necessary, as much as three pints of water, or even four, to be injected slowly into the rectum, so that as much as possible may be retained. When that enema passes away it is found that in the large majority of cases the bladder also empties itself. In connection with the use of the enema, you can obtain beneficial results by applying hot cloths or a hot flax-seed poultice over the region of the bladder, which, by its relaxing effects, tends to correct any spasm which may exist and give rise to retention. If these remedies do not succeed, nothing will remain to be done but to introduce the catheter.

While speaking of the secretions and excretions of the parturient woman, it is proper to refer to the lochial discharge.

From the time that delivery is completed, there is for at least the first three or four days a bloody discharge—a sanious discharge, more properly speaking—which comes from the cavity of the uterus. After five or six days this discharge changes color, becoming greenish, and finally yellowish. It retains the appearance in general for the remaining three weeks of the parturient period; at the end of that time it usually ceases. If the bloody lochial discharge continue for a longer period than five or six days—say ten or fourteen days—the probabilities are that it is due to some abrasion of the cervix—a laceration, perhaps, from which there is an oozing of blood. Such a condition of things, it is likely, would call for treatment.

A part of this structure (the enlarged uterus), of course, as it undergoes fatty degeneration or involution, is carried off by the lymphatics and the blood-vessels into the general circulation, and is excreted through the kidneys, through the skin, and apparently through the alimentary canal. But a certain portion of it unquestionably passes out with the lochial discharge. The relation which the lochial discharge has to this process is perhaps not unlike that which the expectoration of sputa bears to the resolution of pneumonia.

It seems to me that no harm can come from the employment of the carbollized douche after every case of delivery, provided you take this precaution, to have each patient provided with her own glass tube or nozzle and syringe. There will then, it seems to me, be no danger of infection. Use then the douche in every case, commencing, say twenty-four hours after delivery. It is rarely necessary to begin sooner than this, because decomposition, except in rare cases, does not take place until the expiration of that poriod. But if, owing to the season of the year or some predisposition of the patient, you have reason to believe that decomposition will occur, or has occurred before that time, then do not hesitate to employ the douche sooner—even six or twelve hours after delivery. How to make intra-uterine injections I explained to you when speaking of septicæmia, and it is only in that state that you are to employ them. The average period of time that the patient is kept under observation is about nine days from delivery. Now, the wiser plan is this: to see the

patient for six or nine days daily; see that her constitution is what it should be at that period; that she is in fair condition of strength, the appetite good, the functions being performed naturally. Say to her, however, I wish to see you about five or six weeks hence, in order to examine the condition of the genital passages, to find out whether there is remaining any laceration of the cervix, and whether the uterus is in a state of subinvolution. If you dismiss your patient six or nine days after delivery with the condition I speak of, possibly she will not come back into your hands, but pass into the hands of some specialist, who will call attention, perhaps, to a piece of bungling midwifery, which, of course, will not react very favorably upon your reputation. Now, it is unnecessary to say that the making of these cases of laceration may not be because of any special fault on your part, but that is not so much the point as is the fact that by seeing the woman after five or six weeks you may put her in a position to correct any difficulty that may be present.—*Med. Record.*

NOTES ON THE USE OF NITRO-GLYCERINE IN THE TREATMENT OF HEART DISEASE. By W. E. GREEN, M.R.C.S., Isle of Wight.

I propose to bring before you certain results obtained by me in the treatment of heart disease with a somewhat recent remedy, viz., nitro-glycerine. This is a most potent remedy, and I believe I am not overstating its merits when I say that it deserves to rank only second to digitalis in the treatment of disease of the heart.

The action of the drug, which was first noticed by Field, of Brighton, has been experimented upon by various observers, chief among whom may be mentioned Hering, Demme, Alders, Onsum, Brady, Pelika, Thorowgood, Eulenberg, and Weber. In 1876 Dr. Lauder Brunton wrote a valuable paper in the St. Bartholomew's Hospital Reports, detailing its peculiar physiological action upon animals, as tested in the pharmacological laboratory of that hospital. It is to Dr. William Murrell, however, that the medical profession is chiefly indebted for intro-

ducing it as being of great value in the treatment of certain diseases. From a consideration of the physiological action of this substance, and especially from the similarity existing between its general action and that of nitrite of amyl, as set forth by Dr. L. Brunton, Dr. Murrell was led to infer that it would probably be of service in the treatment of angina pectoris, and his result may be seen by a reference to his valuable paper in the *Lancet* of the early part of the year 1879.

I will briefly detail its mode of action and the preparation usually employed.

The solution is the form most usually used, and this is a 1 per cent. solution in spirits of wine. One minim is the usual dose to commence with, but in some cases even less may be given with advantage. It can either be taken in water or one drop may be placed upon the tongue. The solution is almost tasteless, but within three minutes of being taken it begins to exert its peculiar physiological properties. It paralyzes the vaso-motor nerves, and so dilates the blood-vessels; the face flushes, the temples throb, the pulse becomes dicrotic and much quickened; in some cases the head aches most violently, but in others only a sense of fullness and pain across the forehead is experienced, which lessens with each recurring dose, until ultimately no unpleasant effect but simply a warming sensation all over the body, is produced.

A feeling of nausea, or even sickness, is often caused by the earlier doses. The quantity may be gradually increased until fifteen or twenty minims every four hours are given, but I have never found it necessary to administer such heroic doses. It is never wise to give more than one minim at first, for even this small quantity has produced most serious symptoms in certain individuals. The patient has fainted, and has become almost collapsed, but I am not aware that it has ever been followed by a fatal result. I have never myself seen these alarming symptoms, but in two cases have found unpleasant symptoms to succeed a first dose, both cases occurring in hysterical women. The medicine, in one case, was taken without my being consulted (the patient having seen it produce good effects in her father's case); in the other, I prescribed it for certain nervous symptoms, but, at that time, not having had so much experience in its use, I did

not like to persevere. The physiological effect of nitro-glycerine is not so rapidly produced as is that of nitrite of amyl, but it continues from four to six or even eight hours, after which time it is often advisable to repeat it.

I have never found it produce unpleasant effects in any case where its use was plainly indicated, and each day's experience more clearly shows the cases likely to be benefited by it.

While useful in almost all cases of heart disease, I believe those in which it will be found of the greatest benefit are, first, angina pectoris, and second, weak, dilated, and fatty heart. In angina it prevents an attack by keeping the blood-vessels in a constantly dilated condition, and thus prevents the backward pressure of blood upon the heart, which is probably the cause of the agonizing pain of angina.

In weak, dilated hearts it gives relief by reducing arterial tension, and thus lessening the amount of work the heart has to do. The heart, consequently, gains in power by the rest so given to it. As a rule, digitalis does not agree in these cases; but, if thought necessary, it may be given with increased advantage in conjunction with this drug. In several cases of dilated heart, with small, weak, quick pulse, I have seen the beats not only increased in power, but much reduced in frequency, after taking nitro-glycerine for a few days, thus plainly showing that the heart had been relieved of much of its embarrassment, and as a consequence had gained in power. I have used this drug largely during more than two years, and each week my appreciation of its value as a remedy for this classs of cases increases. There are numerous other affections in which it will prove of value, but such do not come within the scope of my present paper. Bearing in mind its physiological action, it will be easy for you to select the cases in which its use is indicated. (The author relates here half a dozen remarkable cases, and adds:) I could relate numerous other cases showing the value of this remedy in heart disease. The cases cited, however, are sufficient to prove that in this new agent we have a very powerful measure in diseases of the heart. It is a remedy, moreover, which is not only palliative, but in many cases actually curative, and I think I may lay

claim to having discovered its application to a much larger and more common class of casses than those originally laid down by its introducer, Dr. Murrell.—*The Practitioner.*

THE HYPODERMIC INJECTION OF QUININE. By J. B. SCRIVEN, late Civil Surgeon of Lahore.

The exceptional severity of certain epidemics of malarious fever, such as that which has recently desolated Umritsur, and the frequent difficulty, from the presence of both vomiting and diarrhœa, of administering quinine either by mouth or rectum, naturally suggests the inquiry whether there is not some other mode of introducing the antidote into the system, which shall not be interfered with by the irritability of either stomach or intestine.

I made some remarks on the hypodermic method in a former number of the *Lancet*, and gave a formula for dissolving the quinine with tartartic acid. Having had now four years further experience in the East, I can speak still more strongly of the efficacy and safety of this method of treatment. I have used it in a great number of cases since 1876, being careful to carry out my own proposal for the avoidance of abscess and ulceration—viz., to introduce the nozzle of the syringe so that the aperture, by which the quinine escapes into the cellular tissue, shall be turned *away* from the skin. The result has been that I have not had a single instance of abscess, ulceration, sloughing, or evil effect of any kind, save a temporary inflammation of arm, requiring rest and cold lotions. As a possible exception to this, I ought to mention that one patient, on whom I operated several times, has now a slight contraction of the extensor indicis tendon; this, however, did not arise until some months after the last injection, and she had rheumatism of the wrist in the interval. It is well, from the moment of the injection, to give the limb absolute rest for a few days, in order to limit or prevent the inflammation.

I have had no case of tetanus since I began to use the tartartic solution in 1872; and I believe the dangers, which have

led to the prohibition of the subcutaneous use of quinine in the army of India, have no existence, if the precautions I have recommended be observed.

It appears to me that the tartartic solution is greatly preferable to the aqueous solution of the neutral sulphate, on account of its higher concentration, the tartartic solution containing one in three, whereas the solubility of the neutral sulphate is only one in twelve.

In 1876 I made a strong point of filtering the solution. Latterly, finding my quinine free from visibly insoluble particles, I have dispensed with this precaution, as a large quantity of the solution was always absorbed by the filtering paper.—*Lancet.* H. D. V.

PREVENTION OF THE INTRODUCTION OF CONTAGIOUS DISEASES.

At a special meeting of the Michigan State Board of Health, held at Ann Arbor, March 1, 1882, the following preamble and resolutions were adopted:

WHEREAS, Measures for the prevention of the introduction of diseases from foreign countries into the United States are of national importance, affecting not only the Seaboard and Gulf States, but also States in the interior, as evidenced a few years since by the wide-spread disaster from yellow fever, and recently by the wide diffusion of imported small-pox; therefore

Resolved, That in the judgment of this Board, such measures should be continued by the National Board of Health and undertaken by the United States Government as will best and most effectually prevent the introduction of disease into the United States.

Resolved, That our Senators and Representatives in Congress be, and they hereby are respectfully and earnestly, requested to use their influence toward securing any appropriate legislation which may be necessary to this end.

Selections.

AN ADDRESS ON DOMESTIC HEALTH. Delivered at the Annual Meeting of the Sanitary Institute in Brighton, December 16th. By ALFRED CARPENTER, M. D.. Croydon.

MR. PRESIDENT: My theme this morning is "Domestic Health," or a consideration of the means by which individual health is raised or lowered, and the period of the life lengthened or shortened by domestic means. That individual life is uncertain, is a truism which every one acknowledges; and yet, in the aggregate, its value is known almost to a day. The statistician can tell to a positive certainty how many among a given number of men, women and children, *pallida mors* will call his own within the next twelve months, provided the area be large enough, and the habits and character of the population understood. If a man take his wife and family to live in a particular district—say in Liverpool, Manchester, or some other commercial center—there is a certainty that their chance of living a certain number of days is less than one-half of that which would belong to them if they came to live at Brighton. If a man determine that his sons shall become publicans or grocers (with wine license), or shall go into any business which brings them constantly into contact with the manufacture or sale of intoxicating liquor, he takes away from the lives of those sons a number of years which would be theirs if he put them into the trade of a gardener, or sent them into the Church as parish priests. We know of some of the reasons for this result. They are clear and unmistakable. Then, again, taking aggregates of children collected together: there are, or were, some streets in Liverpool in which ninety out of every one hundred of the children who were born into the world died

within the first five years of his existence; whilst the children belonging to the class of people, taken from their wretched homes and sent to such schools as those at Anerly, or the Beddington Female Orphan Asylum, have a mortality of about 3 to 1,000 *per annum*. In the one case, 900 die out of a 1,000 in five years, in the other only 15. The conditions which produce this state of things are well known; they are absent in many places; I will mention one class in particular—Her Majesty's convict prisons. In those select and exclusive establishments, the mortality is about 8 in 1,000; but, then, they are selected lives—lives picked out of the most unhealthy and disreputable classes of society. If the same rules as to health and manner of living could be observed by a similar number of persons taken from healthy stocks, and from individuals who had not damaged their constitutions by crime and debauchery, this death-rate would be still lower; 6.5 to 7 in the 1,000 is probably the normal mortality which would arise in such communities; and although we must not compare adults with children, yet a public health which should show such results would, in the course of years, add materially to the number of monogenarians in the death-list, and, in course of time, bring man up to the limit which has been placed by Providence to life on earth, viz., 100 years. I believe every person is entiiled to live to that age; and if he do not, he is deprived of a portion of his birthright, either by his own act, or by the act of other persons. There is a time when a man must go down to the grave, but it ought not to be in consequence of disease, and it ought not to be before he had passed at least ninety years on earth. Death will come, though disease need not; and death without disease would probably be more painful to men than the fact of being born into the world is to the child. Uneasiness there may be, but not that acute suffering which arises, in most instances, from a disobedience to God's laws, either on the part of the individual himself, or of the commonwealth to which he belongs, or of his predecessors or forebearers on earth.

What is disease? It is a departure from the condition of the body called health. When does health cease and disease begin? I believe that there is a border line in which the conditions necessary for the establishment of disease must have time to produce

their results before the disease actually arises. It is in this border line that the work of the sanitarian is most manifest, and is most beneficial to the community, by preventing functional disturbances and the consequences which naturally follow from the loss which sickness produces. I am sometimes asked if there is anybody living in perfect health at this particular moment. That is a question which is difficult to answer, if by health we are to understand that there is to be no disturbance of the equilibrium of function in the body. It is probable that, on this basis, there is no one living among civilized beings who is perfectly healthy, but I contend that there are great numbers in whom the border line of the disturbance of equilibrium has not been passed, and in whom disease has not yet appeared. A knowledge of, and obedience to, the laws which regulate health and prevent disease is of the greatest importance to these persons, for unhealthy home-influences will prevent them throwing off their burthen. They are not well, but they are not ill. Conflict is going on between two forces, and sanitary or unsanitary conditions may decide the issue. Disease works its way in many directions, and by a thousand and one means. There are some classes of disease which arise from the influence of morbid poisons which can produce themselves in the human body; and in these cases, each person suffering from that particular form of complaint becomes a manufactory of disease-producing particles. If these be brought into contact with other beings, they spread that particular form in geometrical ratio. There are some people, however, who are able to resist the effect of this poison, either because they have already suffered from the disease in question, and are protected from its future consequences, or because some unknown condition is present which takes away their liability to suffer from it. This class of disease is called zymotic; it includes small-pox, fevers, cholera, diphtheria, *et id genus omne*. Some individuals and some families are much more susceptible to be influenced by this class of diseases than others, and some die much more rapidly than others from their effects. The causes for these differences are not difficult to understand. The places in which such diseases will be most fatal, when the particles capable of producing them ar introduced there, are pretty well known. The conditions of pro-

ducing fatality are of man's making, and can be removed by the action of man. What are those conditions? In a few words, they are due to those changes which flow from the natural result of the act of living.

The natural products of secretion, or the excreta which are either retained too long within the body itself, or being excreted, are not passed on to the vegetable kingdom for utilization and re-application to man's wants. These excreta are the mainsprings of this class of disease. They are allowed to remain where they ought not to be. It would be as impossible for zymotic diseases to exist among us as it is for fish to live long out of water, if all excreta were rapidly removed and immediately utilized. The presence of zymotic diseases in our midst is evidence that some kind of excreta is retained somewhere in too close proximity to particular individuals, for it to be safe for those persons to continue in contact with it. We are accustomed to regard excreta as simply matters which everybody naturally passes away, or ought to pass away, into our sewers. Some of them used to be stored in cess-pools. That fatal error has been abandoned in most civilized places in Great Britain, but people now think that, if excreta be sent into sewers, all is done which is requisite for safety to health. Let the destructive effects of foul air upon our *employés* at the Government offices, and the death of Dean Stanley, answer this suggestion; let the *Times* newspaper be consulted any day in the week, and you will find in the obituary a record of some one who has been cut off by active disease, the consequence of impurity in the house, which impurity is at present scarcely suspected to have been a cause for his death. It is hidden in the neighborhood of the home, and is possibly unknown. Erysipelas or carbuncle, or so-called inflammation of some particular organ, has cut off the victim in the prime of life, and the death is at present seldom referred to its real cause, viz., foul air in the house. Any sewer which smells offensively is wrongly constructed, and is antagonistic to the public health; sewers ought not to smell; fresh sewerage does not smell, and a sewer should be as clean as a back-kitchen sink.

There is no difficulty about this cleanliness, if sanitary engineers would understand the first principles of sanitary work.

The moment any kind of excreta has passed from the body, at that moment, or as soon as temperature is reduced, there is a cessation of those actions which give rise to offensiveness. The offensiveness produced within the body is not injurious to health under ordinary conditions, otherwise every person would rapidly poison himself. That offensiveness is gaseous, and is soon dissi pated, and there is a border line of time for removal before any kind of dangerous offensiveness can arise. When it is produced, it is a proof that the excreta have been kept within range of human life too long. The offensiveness is caused by germs of molecules, capable of reproduction in a different form from those which previously existed; they are material particles, and not gaseous, which have grown in the excreted matters outside the body. They are new cultivations, and are not capable of doing serious mischief in the tissues of living persons. They are comparatively harmless within the body, until they undergo a kind of change of nature, which enables them to do things which they could not have done without that change, and which would not have taken place if there had not been something at hand to enable them to grow. This change is promoted by rest in contact with nitrogenous matters, and is opposed by motion. There are some natural conditions which entirely prevent that change in the dangerous direction. Those natural conditions are found in our mother earth, and in the growth of vegetable matter upon that earth. The changes are promoted by rest, and the atmosphere which arises in the presence of organic matter in a state of rest, viz., an atmosphere containing excess of carbonic acid. This excess is sure to increase when organic matter is changing without an abundant and continually new supply.

The first principles, therefore, of sanitary work are embodied in the immediate and direct removal of all excreta from our midst, and its conveyance to, and utilization or destruction in, those districts which Providence has designed for its reception. Six to twelve or twenty-four hours are required, according to temperature and season, before mischief can arise; but this margin of time is ample for its removal.

But some of my hearers may say, are not diseases infectious, and capable of being transmitted from one to another, irrespective

of outside sanitary work? I have to answer yes to this question; unfortunately they are; but their infective character arises from the fact I have already mentioned—viz., there is defective sanitation at home. There is scarcely a house in the kingdom in which excreta are not to some extent retained. The most civilized and luxurious home is, in some cases, carefully prepared for the cultivation of disease-germs or factors, if they come into our midst; carpets, curtains, and comforts of all kinds retain the *debris* from our skins and our pulmonary membranes; the excreta from our sweat-glands are allowed to settle upon our uncleaned windows, out-of-the-way cornices, useless ledges, and so-called architectural or upholstering ornaments; and our smoking friends spit about in a fashion which allows forcing-beds for disease germs to exist everywhere; so that, but for ventilation, the smoking carriages on our railroads would be very pest-houses, if disease-germs find admission to their floors; whilst our sensitiveness to draughts, and the way in which we heat our dining-rooms and offices, our public places of resort, our churches, and our drawing-rooms, provide a forcing-house for the growth of disease-germs which it seems almost impossible to disperse. I say almost impossible: this is only as regards the present time; for, with the growth of knowledge, there will be a gradual removal of causes; and, when the wholesale distribution of disease germs by water companies and impure sources of supply, impure food, and by sewers, is absolutely stopped, the private multiplication and spread of factors will be capable of being stamped out in a far easier and more satisfactory way than is now the case. Pure air, pure water, pure food, and temperate habits will diminish the amount of pabulum in which disease-factors can develop; and with those benefits we shall have a diminishing amount of impurity in the blood of individuals, which will gradually be effected in consequence of a more perfect knowledge of hygiene. This will render the blood and other tissues of most people so free from unnatural excreta, that, in the words of the Psalmist, "they need not be afraid of the pestilence which walketh in darkness, nor of the destruction which wasteth at noonday." (Psalm xci, v. 6.) This was a condition of things which was well known to the great Jewish lawgiver. Obedience to the sanitary laws which were

laid down by Moses, is a necessary condition to perfect health, and to a state which shall give us power to stamp out zymotic diseases. If those laws were observed by all classes, the zymotic death rate would not be an an appreciable quantity in our mortality lists. It is the duty of the State to prevent the wholesale or general distribution of zymotic disease; and if, with public spirit acting in the right direction, we have private action in every case in opposition to its distribution, there will be a great obstruction to the establishment of factors in our midst. That action must be directed by an intelligent knowledge of the fact that every person suffering from zymotic disease is a manufactory of particles of infective matter, which particles only require to be deprived of beds in which they can increase and multiply, and then zymotic diseases will altogether disappear as epidemics.

Let us keep this fact in mind: that it is the retention of excreta without the body, which are in a state of rest, and which are not brought into contact with soils and growing vegetable life, that allows the multiplication of disease particles able to infect humanity. But we may also remember that, if that humanity be in a proper state of health, the germs may find admission to the system, but will fail to find pabulum to set up disease; or the pabulum may be so reduced in amount, that the disease is of the mildest and least dangerous character.

The chemical constituents of the secretions and of the excreta are so varied and changing, that it is easy to see that the poison may be very various in character; and, as each kind of [illegible] a different kind of pabulum, it follows that in one case the disease may be severe, and in another slight, [illegible]; and that the effects of the [illegible] of material upon which it [illegible]. There is an analogy between the [illegible] within and without the [illegible] increase and multiply at the ex- [illegible] its mission in the human [illegible] in proper time from the [illegible] of its producers; [illegible] harmless if kept within the [illegible] necessary for its proper discharge.

and a disease-germ finding admission would fail to find food in sufficient quantity to live upon, and would abort, become unfruitful, and be incapable of producing evil; that it is the quantity of this pabulum which regulates the intensity of an attack of zymotic disease, assisted to some extent by the quantity or size of the dose of infective matter. A small dose takes considerable time to reproduce disease-product in sufficient amount in the tissues of the body to seriously interfere with general health, unless the pabulum be very great; but, when the dose is large, there is a more rapid reproduction, the stage of incubation is more decided, and the new crop, or new association of matter which the crop sets up, is capable of arresting some of the various functions of the body, which functions are necessary for the continuance of life. They interfere with the work of a gland, or take up material for their own nourishment which the body requires for healthy action; and so disease of organs arises which may or may not have a fatal effect, according to the amount of interference which they produce. If, however, the products of the act of life be removed from the body as soon as formed, or as soon as nature requires them to be removed, the germs of disease may be admitted without material risk; but, being admitted, the result of their action will be manifest according to the quantity of *débris* which is present for them to feed upon. They then grow, come to maturity, reproduce the minutest of the minute forms of perverted protoplasm, and, having fulfilled their mission, die a natural death. These diseased protoplasmic particles have to be expelled from the body (in small-pox, they form the pustules); and the causes of all the mischief break up into other organic forms, and become excreta from the body if health be restored. If, however, death take place, they continue to multiply after a short time in the tissues of the victim, until putrefaction has thoroughly broken up the animal matter into its simple elements. This is very easy to understand, when we remember that man produces in himself, by his own act of living, three or four of the most virulent poisons which can be manufactured. We are apt to think of the saliva of a mad dog, the secretion connected with the poison-fang of a snake, or the cause which produces the plague, as terrible things, to be kept a distance, and to be run

away from at the shortest possible notice; and yet we manufacture in our own bodies, at every moment of our lives, poisons which are as virulent as any I have mentioned, or which can be produced anywhere in nature. The carbonic acid which we expire is instantly fatal when it is inhaled in its concentrated form. The cholesterin, or some products resulting from a change in the elements which form that material, and which is produced by nerve-action in our own persons, has only to be kept within the body, in the way which does happen sometimes in some forms of liver disease, to be fatal in a few hours. The same result follows in kidney maladies, in which the kidney refuses any longer to perform its work; and, if the skin be varnished over with some impermeable varnish, an end comes to life within a few hours, from the retention of an excretion which should be made by the skin, the retention of which is also the cause of fatal effects in some eruptive diseases. These excreta exist in some shape or other in the blood, and ought to be removed as rapidly as nature designed that they should be; and yet, by our domestic habits, by our taste for stimulants, by our absurd fashions, and by our so-called civilized life, we impede the actions of those organs which excrete those poisons; we keep the products of metamorphosis of tissues about our own persons, and then wonder that nature rebels at such treatment, and sets up actions of her own antagonistic to the deadly effects which such treatment is certain to produce. It is in consequence of these antagonistic actions, to the retention of these morbid poisons, that, as an ultimate result of that sickness, the mortality of our country, as well as of all others in the world, is so much higher than it ought to be.

It is a curious and a wonderful fact, that the usual effect of the self-manufactured poisons is not painful; deaths by carbonic acid, or urea, or acholia, are comparatively painless. Pain is the outcry of those watchful sentinels which Providence has given us for our protection; it is the danger-signal to be carefully considered, by means of which the approaching mischief may be warded off. The tendency of treatment by the medical profession at the present day is rather to ease pain, than to prevent a recurrence of those evils which give rise to pain. I trust, however, that a more sensible era is approaching, and that human foresight will

take the direction which I have indicated—viz.: that of rather bearing with the pain and taking measures to prevent a continuance of its cause, than of rushing for relief of the pain itself to those agents which make us still more blind to its consequences, while we let the cause go on. I refer here more especially to the use of intoxicating liquors for assisting in perfect digestion, relieving neuralgic conditions, and obtaining an artificial and delusive warmth. The relief is obtained at the expense of a paralyzing action set up in the watchful sentinels of danger. The organic and sensitive nerves, which are the danger-signals, are put out of gear; and the train goes on heedless of the mischief, which is now hidden from feeling and personal observation. By these means, organic diseases arise in the different organs of the body. Brain, heart, lungs, liver, and kidneys, or spinal column, ultimately break down, and life is shortened in a way and by a means which is little thought of by a majority of the victims; and the daily use of alcoholic drinks assists this more than any other known agent.

Time would fail me to deal with all the causes of disease which arise from a want of proper knowledge among the people of the first principles of domestic hygiene, and of the evils which follow from a non-removal of the products of excretion, and the retention within ourselves and our houses of those deadly poisons which are manufactured by the human frame in the act of living. I must, however, remark that, as regards the outside of our bodies, it is not likely that the best method of dealing with excreta will be generally used, until public opinion has put a stop to that vicious principle which is adopted, of paying our engineers and our architects for the work they perform according to its cost, viz.: by a commission upon the cost of the work done. The great object is to expend large sums in great works, whilst the minor details, which take up the most time and cause the smallest expenditure of capital, are relegated to the care of those who have to inhabit the house after it has been built, or to keep the sewers in order after the engineer.

As regards the individual, I am of opinion that, sufficient as vaccination is at present in protecting the masses from the effects of small-pox, the right course to be followed in the prevention

the effects of infectious disease is not to be found in trying to bring into vogue new methods of vaccinating, for the prevention of cholera, diphtheria, and others of that class, but in the removing from our persons and from our habitations those *débris* which arise from the act of living, and the removal of which would render us proof against the evils caused by contagion. However much, therefore, I may admire the efforts of Pasteur to prevent the spread of infectious disease at the present time among our domestic animals, I believe it is not the direction in which we should look in the future with regard to ourselves, except so that we may draw the inference that, as it is by cultivation that a germ becomes deadly, so, by a counter-cultivation, its deadly character may be done away with, and the disease rendered harmless. I prefer to follow upon the lines connected with the latter rather than the former contingency; and if the anti-vaccinationists were as energetic in the promotion of sanitary work, which has for its object the utilization of our excreta, as they are in antagonism to vaccination, they would be doing some good in the world, and would assist to bring about a condition of things which would render vaccination an unnecessary operation.

[Dr. Carpenter next commented at some length on the results arising from want of ventilation in homes, and the retention of carbonic acid and other excretions exhaled from the lungs in the act of breathing; reference being especially made to its influence in the production of tubercular disease.]

If it were not for circumstances connected with poverty, the poor would be rapidly swept from the face of the earth by tubercular disease; but it happens, fortunately for them, that their houses cannot be kept entirely draught-proof. Wind and storm find their way into their lodgings, and diminish the evil by diluting it, and that which they consider a misfortune is a real blessing. For dilution of the poison is an impediment to its effect. This good fortune does not apply to the same extent to the houses of the rich; they, as well as the poor, take care to exclude fresh air, and take the greatest possible trouble to keep oxygen outside, and to retain carbonic acid and its concomitants in their living-rooms. Every step which is taken to ensure comfort adds to the danger. The old-fashioned open fireplace and imperfectly fitting windows

kept the enemy at bay for a time; but the chimney-corner is gone; window-frames are made so tight that not a breath of fresh air can get in by their means; and carpets, curtains, and other so-called comforts, remove from them all its freshness. The introduction of gas for illuminating purposes adds very much to the evil; each ordinary gas-burner uses up as much oxygen as three people; and now the custom is to render the walls perfectly impervious to the transmission of air, and still greater evil naturally follows. The result is that people, especially luxurious people, live in an atmosphere in which there is a diminution of the required oxygen, with increased amount of carbonic acid, with its concomitant excreta, which in themselves are still more injurious, as being food for debased protoplasm; and then they wonder why they are out of health; why they constantly take cold when exposed to draughts; why they lose their appetite; why they cannot sleep; and why they suffer from headaches and listlessness—why, in fact, they do not enjoy life, and feel thankful to the God who made them for the blessings which might be theirs, if they understood the laws which belong to the act of living.

Suppose we look into the church where we go to give God thanks for our many blessings. A thousand people are there, each occupying a square yard of floor-space. It may be even less than this, if it be a fashionable place of worship. The seats are cushioned, and the floor at the least matted. If it be cold weather, the great object of the verger is to keep the church warm and comfortable. The temperature is carefully observed to be above temperate on the thermometer, which hangs on the center pillars. If the air in that church were examined, it would be found to be already deficient in oxygen. Instead of 20.90, it is probably 20.70. A thousand people are assembled; each of these, on the average, produces .6 cubic feet of carbonic acid per hour, or a cubic foot during each ordinary service. A thousand cubic feet of a deadly poison are exhaled into the place; and, if there were no ventilation at all, the whole of the congregation would be suffocated before the service is over, for three per cent. of carbonic acid would soon be fatal. Each person uses up 6.6 cubic feet of air per hour; and, to keep down the level of carbonic acid to its natural standard, one hundred times that quantity

of fresh air is required to be admitted for each individual. Dr. Parkes calculated that 2,800 cubic feet per hour per individual of fresh air were necessary to effect this object, beside the quantity required for the supply of gaslights, which may be used, and which are used in most places of public assembly. in the way which is most likely to damage the health of those exposed to its influence—viz.: by naked burners. The thousand people require 3,000,000 cubic feet of fresh air each hour to keep the poison within the natural limits, and at least half that amount to keep it within a safe amount. Is there any architect in the kingdom who provides this? Is there any architect in the kingdom who ever considers the subject from this point of view? The result of this neglect is the establishment of draughts, which the shortsightedness of people generally will not permit. They prefer to be poisoned by an anæsthetic painless process, rather than submit to discomfort and possible pain, with a diminution of danger.

There is also another result which follows from close packing: each person is a furnace, and thus tends to raise the temperature of the place in which the people are assembled to a point as near to 98.5° as the assembly will permit. This is a law established by Providence to prevent suffocation; for, as soon as there is a rise of the temperature of the air within the room, there is an immediate effort made by the outer air to bring it to an equilibrium. The higher the temperature, the more rapid the movement of the outer air to enter, and the more decided the draught. There is at once a cry, on the part of those exposed to the draught, to close the aperture, and check the benevolent designs of Providence, when the real indication afforded by the draught is that more openings are wanted. The offending opening is closed, with the certainty of greater injury being inflicted upon all the occupants of the room than it was possible for the draught to effect.

It ought to be an established ordinance, that architects should be called upon to provide entrance for fresh air, as well as exits for foul air, which will correspond with the number likely to be present in the building; and we ought to call upon all those who have the care of places of public resort, that there shall be an intelligent supervision of these means; that it shall not be left to

an ignorant attendant to regulate the ventilation of a place for a cold night, and alter it as temperature rises inside or falls without. Each of these conditions ought to be watched, and provision made according to the requirements of each place; and, until these conditions are considered by architects, it will not be possible to prevent people assembling in great numbers from, to some extent, poisoning each other. As to our dwelling-houses, when the public shall come to understand that pain is an evidence of some wrong conduct on our own part, or on the part of some other persons toward us—induced, it may be, by regulations for the prevention of the ingress of fresh air into the house in which we live—architects will see that provision is made for free ventilation of a character which shall not destroy by imperfect designs; and they will not obey the wrong instincts of our nature, by trying to shut out the vivifying influence which pure and frequently renewed air alone can afford.—*British Medical Journal.*

SMALL-POX IN RICHMOND.—Rumors are wild as to the estimated number of cases of small-pox in this city. At the time of our last issue, there were not over seventy-five cases of small-pox and varioloid in the city. Now there are not as many as thirty-five—so much for vaccination. Every day the number of cases is decreasing, until now there is not the slightest ground for fear of its further material spread. The city Board of Health is not only vigilant in regard to this matter, but it is now clothed with sufficient authority to stamp out the disease entirely, and in a week or two after the issue of this December number, we venture the assertion that new cases will be very rare and far between.—*Virginia Med. Monthly.*

Abstracts of Hospital Reports.

THE RADICAL CURE OF HYDROCELE.

I desire to bring before the readers of the *British Medical Journal* a procedure, which of late I have practiced with complete success, as a means for effecting the cure of hydrocele. Having tapped the cyst with a short but rather large trocar and canula, when the flow of liquid ceases, I charge a long but slender silver spoon or spatula with a small quantity of finely powdered iodoform, and slip it through the comparatively wide canula into the cavity of the tunica vaginalis, or cyst, as the case may be. A few movements of the spatula will serve to bring the iodoform into contact with different portions of the cyst wall, and, in the event of the tumor having been of large size, a second, or even third, spatulaful of iodoform may be introduced, care being taken to apply some of the powder to the upper and lower extremities of the cyst. After withdrawal of the spatula, the canula is to be removed, when the puncture may be closed by holding the skin pinched between the finger and thumb for a few minutes.

The patient experiences but little pain either during or subsequent to the operation, and, although it is not desirable that the scrotum should be subjected to rough usage, yet it is by no means necessary to keep the patient confined in his room. From my experience of the iodoform treatment, I fully anticipate that all who may give it a trial will find this method to contrast favorably with the sometimes uncertain, often painful, and always disagreeable injection of an iodine solution; whilst, as for the German plan of laying open the cyst cavity, and drawing it under antiseptic dressings, I consider the measure an unnecessarily severe one, quite uncalled for in the majority of cases.—P. J. HAYES, F.R.C.S., Ed., in *British Medical Journal.*

THE TREATMENT OF PNEUMONIA AT BELLEVUE.

The motive of the general treatment of pneumonia at Bellevue Hospital is to sustain the powers and stimulate the functions of the patient till the comparately brief and self-limited disease shall have spent itself.

The pulse is taken, rather than the temperature, as the gauge which best indicates the capacity for resistence, and an increase in its rapidity and diminution in its force are understood as a call for stimulants. The forms of stimulation used are to some extent subject to differences of opinion on the part of the visiting physicians, but all are agreed as to the value of wkisky, and there is almost as much unanimity in their regard for the carbonate of ammonium. Digitalis is much used, but it is objected to by some, partly because experience seems to indicate that in some cases, when the crisis of the disease has passed, patients are left, after its use, in a condition less favorable for recovery, and partly from the theoretical consideration that this drug is not general enough it its action. Camphor has been employed by some as a diffusable stimulant.

The general treatment of pneumonia is, then, by simple stimulation. In special conditions, however, more is done. When the patient is first seen, if he is suffering from considerable pain, a few doses of morphia are recommended. If the disease is seen at its outset, and if the outset is violent in character, one at least of the leading physicians on the visiting staff believes in the good effect of a few doses of aconite, but its use is not general in the hospital. The spirit of Mindererus, sweet spirit of nitre, calomel, and Dover's powder, are used by some in the first stage of the disease. Quinine is occasionally called to bring down the temperature when it rises to a serious height. One of the visiting physicians makes a special point of the importance of watching the kidneys and seeing that they perform their duty well.

The appearance of œdema of the lungs finds all agreed upon the necessity of pushing the stimulants. But beyond this there are some differences of practice. They would be included in the use of dry cups, the hot pack, oxygen, and, in the few cases which are entirely suitable for it, bleeding.—*Medical Record.*

ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, NORTHAMPTON.—Case of Recurrent Melancholia, with Persistent Suicidal Attempts, characterized by the swallowing of large sharp-pointed bonnet pins and quilting needles; recovery; discharge. (Under the care of Mr. J. Bayley.)

For the following notes we are indebted to Mr. T. V. deDenne:

Miss ———, aged thirty-one, was admitted October 17, 1879, suffering from melancholia. This was the second attack, and had existed two months. She had been under treatment elsewhere four years previously. She was described in "the statement" as having talked of committing suicide, and as being dangerous to others "only when restrained from attempts to escape."

On admission the patient was somewhat depressed, and expressed a wish to destroy herself. During the night it was found that she had tied the cord of a window-blind round her neck. After the first few days, in which she constantly asked for poison, she became more cheerful, although varying from time time, and either laboring under a delusion that she would ruin the place if detained or speaking of suicide.

By December 6th she was apparently so much improved that she was allowed to accompany a skating party to a neighboring meadow which was flooded, when, successfully evading those around, she threw herself into a hole in the ice, from which she was rescued with some difficulty.

On January 12th, delusions and suicidal intent meanwhile persisting, she complained of pains in the abdomen, and vomited a fluid with a red paint-like sediment, but denied having taken anything of an unusual nature. After this she continued sick, vomiting green matter, and on January 25th, being then in considerable abdominal pain, chiefly on the left side, confessed that prior to the attempt to drown herself, she had swallowed bonnet pins, and broken crochet and knitting needles. The seat of pain was now transferred from the left to the right side of the abdomen, and continued until February 21st, when she vomited a lady's bonnet pin, three inches and a half in length, without the black head, and sharp at the point. The point of the pin stuck into

the palate and had to be removed. Relief was immediate, but the following day she again began to vomit, and a hard, painful spot was observed to the right of the umbilicus. A day later the motions were found to be tinged with blood, and there were restlessness, passing into delirium, and tympanitis. On February 29, being a little more than a week from the appearance of the first pin, she passed another by the bowels of a similar kind with the head intact, and a few days afterwards two portions of knitting needles, of a larger size than the others, but of the same length.

Some time elapsed, during which she showed no mental improvement, and was more or less constipated and tympanitic.

On April 22d she passed with some pain and blood another portion of a knitting needle, and next day still another. This was the sixth and proved to be the last. Her mental condition was most variable; at one time she talked sensibly, and then she would laugh and express a wish to die, etc.

Subsequently an improvement was observable, and on September 23, 1880, being upwards of eleven months from the date of her admission, the patient was discharged recovered.

The treatment of the local symptoms at first consisted in the administration from time to time of castor-oil until the confession of the patient established their true origin, when special diet was ordered and an occasional enema was given, the tympanites, etc., being also, so far as possible, combated by the application of poultices or fomentations. Morphia was prescribed, after admission for the mental condition, but later chloral was the principal agent employed to allay restlessness and procure sleep.

Remarks.—The case is of interest as showing the length of time that foreign bodies may be retained in the intestinal canal. The first of these made its appearance about eleven weeks, and the last nineteen or twenty from the date given by the patient as that on which they were swallowed. And bearing in mind their dangerous nature, it is still more noteworthy for the satisfactory result.—*Lancet.*

Obituary.

ALEXANDER FISHER, M.D., was born in Lancaster, Worcester county, Mass., August 12, 1804. After receiving an Academic education, he began the study of medicine in 1831, under the private instruction of Dr. Geo. W. Richards, of Camillus, N. Y. He entered the College of Physicians and Surgeons at Fairfield, Herkimer county, N. Y., from which institution he received the degree of Doctor of Medicine in 1834. and afterward practiced a short time in partnership with his preceptor, Dr. Richards.

In June, 1835, he removed to Western Star, Summit county, Ohio, where he was engaged in active practice until the fall of 1849. The winter of 1849–'50 he spent in Philadelphia in medical study; and in the spring of 1850 he resumed practice in Akron, Ohio. In 1854, failing health obliged him temporarily to suspend his professional work. Having regained his health, in the following year he removed to Chicago, where he continued faithfully to practice his profession until the infirmities of age compelled him—not long before his death—to relinquish its labors.

He was modest and unobtrusive in his manners, but gave to each recurring day as much patient labor as was necessary for the faithful performance of its duties. He dealt honestly with his patients; he had a nice sense of professional honor; in every walk of life he was a worthy citizen, and enjoyed the respect and esteem of all who knew him. Though engaged in general practice, he gave especial attention to surgery, and among his operations of interest may be mentioned a case of ligature of the external iliac artery, published in the *American Journal of the Medical Sciences*, April, 1856. He served for a term as a volunteer surgeon in the war of the rebellion. He was Emeritus Professor of Surgery in the Woman's Hospital Medical College, and a member of the Chicago Medical Society, and also of the Society of Physicians and Surgeons, of Chicago. He died Feb. 15, 1882. Though twice married, he died a widower, leaving two sons in business in Colorado.

THE Chicago Medical Society, at the meeting held on March 6, voted the following resolutions, and recommended their publication in the medical journals of the city:

WHEREAS, Alexander Fisher, M.D., an honorable, eminent and efficient Fellow of this Society, in the ripeness of his years, and after a long and successful practice of medicine and surgery, has been called to his reward in another stage of existence, where pain is unknown and the weary are at rest; be it therefore

Resolved, That whilst we recognize the fiat of our Heavenly Father, in removing our friend and Fellow from our midst, as the inevitable destiny of man, it is yet with sorrow we remember that we shall see his face no more, nor again listen to his voice in the councils of this society.

Resolved, That a committee of three be appointed by the President to present these resolutions to the family of the deceased Fellow, with expressions of our sympathy and sorrow.

DRS. JOHN BARTLETT,
G. C. PAOLI,
R. C. HAMILL,
D. W. GRAHAM,
} Committee.

At the meting of March 20 the following committee was appointed to present the same resolutions to the family of the deceased: Drs. N. S. Davis, L. H. Montgomery and A. Reeves Jackson.

E. I.

AT a special meeting of the Alumni Association of Cook County Hospital, held at the Grand Pacific Hotel, the following resolutions were passed with reference to the demise of Dr. D. S. Root, an old alumnus. Just as the Association was congratulating itself upon its integrity it became its painful duty to record its first death:

WHEREAS, It has pleased Providence to remove from our midst a beloved brother,

RESOLVED, That in the death of Dr. D. S. Root this Association, and the medical profession as well, have lost one who had gained an enviable position in his chosen calling.

RESOLVED, That in his life we recognize an example of great industry, unsullied integrity and excellent scholarship, which made his career of great service to his fellow-men and his death deeply regretted by all with whom he has been associated.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, April 3 and 17.
Chicago Pathological Society—Monday, April 10.
Biological Society—Wednesday, April 5.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics, by Profs. J. H. Hollister and R. N. Isham.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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Original Communications.

ARTICLE I.

THE YELLOW OXIDE OF MERCURY IN OPHTHALMIC PRACTICE.

By F. C. HOTZ, M.D., Ophthalmic Surgeon to the Illinois Charitable Eye and Ear Infirmary, Chicago.

The yellow oxide of mercury (hydrargyrum oxyd. flavum) is an impalpable powder, which, when properly mixed with vaseline, makes an ointment of the greatest uniformity, and on this account is preferred by oculists to the red oxide. It is a powerful local stimulant and alterative, promoting the absorption of the products of inflammation, and encouraging the process of repair; but we know little about the exact way in which it accomplishes this effect, although it has been in use these twenty years.

It owes its introduction into ophthalmic therapy principally to the late Dr. H. Pagenstecher, of Germany, upon whose recommendation, in 1861, it was methodically employed in many eye-clinics.

But though it showed itself worthy of the high praise bestowed upon it by Pagenstecher, whenever it was tried, it seems to me it

has not gained yet that wide and general recognition it merits. At home and abroad I have even quite recently met with cases which had been treated by various remedies unsuccessfully, where a few applications of "Pagenstecher's yellow salve" would achieve a speedy cure. One of the best instances of this kind I saw in an eye infirmary two years ago. A case of fascicular keratitis (for which I regard the yellow salve almost in the light of a specific) had been treated with eserine for three weeks without showing the slightest improvement; still eserine was continued, though the yellow salve usually subdues an inflammation in three or four days.

It probably appears as if I have a biased opinion of the remedy; but I hope I shall prove that my partiality, as far as it goes, is well grounded. But while I value the remedy very highly, I am far from following the example of a recent writer, who seems to regard the yellow oxide as a cure-all for almost every inflammation of the conjunctiva and cornea. In his publications he denounced the use of astringents for catarrhal conjunctivitis in terms which leave no doubt about the sincerity of his opinion; they should be abandoned, and yellow oxide be used in their stead. Without questioning the truth of his statement in regard to the happy results he obtained by his plan of treatment, I, for my part, have been so well satisfied with the good effect of mild astringents in the treatment of the simple forms of conjunctivitis, that I feel not disposed to abandon their use.

But there are three diseases of the eye for which I consider the yellow oxide preëminently superior to any other local remedy. These are: 1. One form of blepharitis ciliaris; 2. Phlyctenular conjunctivitis; 3. One form of phlyctenular keratitis.

1. Under the name, "blepharitis ciliaris" (or ophthalmia tarsi), the text-books describe two distinct affections which ought to be distinguished from each other by different names. Both affections have their seat in the sebaceous glands of the lid border, the one being due to inflammation, the other to hypersecretion of these follicles. The inflammation produces pustules and follicular ulcers around the eyelashes; the hypersecretion causes the production of epidermis-like scales. I have, therefore, distinguished the two affections in my records as blepharitis *ulcerativa* and *desquam-*

ativa. But we might as well adopt the nomenclature of the dermatologists, who distinguish the similar diseases of the skin as *acne* and *seborrhœa.*

Now, the form of blepharitis to which I wish to invite the attention of the reader for a few moments, is the seborrhœa or blepharitis desquamativa. Where the disease is well marked, you find along the rows of eyelashes epidermis-like scales of various size and thickness; sometimes they accumulate layer upon layer to form small heaps around one or more eyelashes. These scales can be wiped off by the finger or a soft cloth, or scraped off by the finger-nail. The skin underneath may be reddened, but otherwise it is unchanged, showing neither pus spots nor ulceration. In the milder forms, however, the scales are not so conspicuous; they are very fine and thin, and on this account, often escape the attention of the surgeon. And in some cases, where I suspected the lid border being the source of the patient's complaints, it appeared at first quite normal, but when a little yellow ointment was applied, numerous minute scales could be rubbed off, which before were invisible. In doubtful cases, therefore, I can recommend the use of the yellow ointment as a very good means of deciding the diagnosis.

Such eyelids are exceedingly sensitive to external influences; exposure to impure or cold air, winds, heat, gaslight, make them red, and the patient is annoyed by an unpleasant burning and itching sensation in his eyelids. But the principal complaint is a sort of asthenopia; the patient comes to you saying he has got "weak eyes;" he cannot enjoy the free use of his eyes for reading, writing, or any other close application; sooner or later he is obliged to abandon work because his eyes ache, and burn, aad weep, and feel as if they were full of smoke or dust; sometimes ordinary daylight even is unbearable to such eyes.

The source of these subjective symptoms is not the seborrhœa itself as much as the hyperæmia of the tarsal conjunctiva, which is always associated with it. And since the conjunctival hyperæmia sufficiently accounts for all the subjective complaints, many physicians and oculists overlook the seborrhœa, or, if they notice it, regard it as secondary in nature and importance, and concentrate their whole therapeutic effort upon the conjunctival hyper-

æmia. The whole list of astringent eye-waters is tried successively; or the conjunctiva is touched occasionally with a crystal of alum or copper. Month after month such patients have been treated for "granular lids," when the most thorough examination failed to discover even a microscopic evidence of past or present granulations, but simply found hyperæmia of the conjunctiva dependent on blephar. cil. desquamativa. The result of this wrong treatment can easily be imagined. It hurts both the patient and the physician. It hurts the patient physically, because it aggravates his complaint; and it hurts the physician morally, when by another physician his patient is quickly relieved of a complaint which he had been fighting unsuccessfully for so many months.

Ignore the secondary conjunctival hyperæmia; direct your whole attention to the primary trouble; regulate the action of the tarsal glands, and you will speedily relieve your patient of all his complaints, because the conjunctival congestion will subside *pari passu* with the seborrhœa. Two instances may be related for the sake of illustration. A young lady, while attending a boarding-school abroad, last summer, experienced some asthenopic trouble; she could not read more than twenty minutes, when she was obliged to quit on account of severe burning and aching; her eyes became red and felt very uncomfortable during the rest of the day. A very competent oculist whom she consulted diagnosticated "granular eyelids," and treated the case accordingly. The treatment was very painful, and unsuccessful. Under these circumstances the lady decided to quit school and return home. When she consulted me, I found a slight bleph. cil. desquam., V=$\frac{20}{20}$; under homatropine H 1-50; simple hyperæmia of the conjunctiva of the upper lids, and the conjunctiva of the lower lids very red and swollen. This swollen condition I attributed to the effect of the previous treatment, and took no further notice of it. Four applications [illegible] salve relieved the young lady of all her eye trouble [illegible] could read again all day without the least [illegible]

And [illegible] aged twenty-two years. Her e[illegible] years. Last year they h[illegible] for six months

without any benefit. At her first visit her eyes were very red, as if she had just been crying; the borders of the eyelids were thickly covered with sebaceous dandruff-like scales; the conjunctiva was intensely bright red, but thin and smooth, and there was no secretion of mucus. R. E. V=$\frac{20}{200}$ only; L. E. V=$\frac{20}{20}$, and Em. also under homatropine. The cleaning of the lids and the application of the yellow salve made them very red; but on the next day they appeared much better, and within four weeks they were cured.

But in order to secure these good results, I deem it necessary to give the case my personal attention, or to instruct some attendant or friend of the patient in all the minutest details of the treatment. If the patient is simply told to rub the ointment in his eyelids, he will probably spread it indiscriminately on any other part of the lid but the border which should be anointed. You must show him how and where to apply the ointment, and in the first place, you must impress on his mind the absolute neces sity of cleaning the lid borders of all scaly matter prior to the inunction. Show him how easily and harmlessly these scales can be removed with the fingers or a soft cloth. When the eyelids are scrupulously clean, take with the end of a probe a small amount of the ointment (as much as the size of a pin's head is sufficient for one eyelid), and spread on the skin along the row of eyelashes. If the lower eyelid is to be treated, it is drawn down with the fingers of one hand, and the ointment spread below the eyelashes is thoroughly rubbed upward into the ciliary border with the finger of the disengaged hand. To treat the upper lid, it is best to close the eye, and by a slight traction upon the skin of the upper lid to evert its free border just enough to bring it in view; then the salve, spread out above the eyelashes, is rubbed down into them. When the application is made in this manner, it is not likely that any of the ointment will get beyond the row of eyelashes upon the posterior edge of the free border, whence it would easily find its way upon the conjunctiva, and cause unnecessary irritation and pain; but when any particles of ointment are found there, they should be wiped off with a soft cloth. The salve must be rubbed in so thoroughly that nothing but a faint greasy appearance of the ciliary edge betrays its presence. One such

inunction each morning is usually sufficient to relieve even the worst degrees of bleph. cil. desquamativa.

2. The seat of the *phlyctenular conjunctivitis* is the ocular conjunctiva. Either at the sclero-corneal border or at a short distance from it, we find the epithelium lifted up by small grayish nodules, ranging in size between a millet and hemp seed. The development of these nodules or *phlyctenules* is attended by more or less hyperæmia of the ocular conjunctiva. When there is but one phlyctenule, the hyperæmia is often limited to a triangular section, having its basis in the retro-tarsal portion of the conjunctiva, and its apex at the seat of the efflorescence. When there are two or more phlyctenules, the vascular injection is proportionately more extended, so that in some cases the entire ocular conjunctiva is engorged, as if we had to deal with a very serious inflammation.

In every phase of this disease the yellow ointment is the most useful remedy. The best mode of its application is this: Suppose the left eye is to be treated; we charge the end of a silver probe with a small amount of ointment; sitting in front of the patient, and holding the probe lightly like a writing pen with the finger of our right hand, we rest this hand on the left temple of the patient; with the fingers of the left hand we separate the eyelids sufficiently to evert the lower lid, and introduce the charged end of the probe from the outer canthus until it has reached about the center of the lower cul-de-sac; now removing our left hand from the eyelids to let them be closed, we slowly withdraw the probe through the canthus. By this manœuvre the ointment is taken off from the probe, while it passes out between the eyelids, and remains within the conjunctival sac; and by gently rubbing the eyelids to and fro over the eyeball (massage) it is uniformly distributed over the surfaces of the ocular conjunctiva. A few applications of this kind allay the inflammation and procure a speedy absorption of the phlyctenules.

Some surgeons employ calomel dust in the local treatment of this affection. In the very mild forms it is perhaps as efficient as the yellow ointment, but I know of cases in which calomel has disappointed the surgeon, while the yellow ointment promptly achieved the desired improvement.

Sometimes the case presents a mixed character; that is to say, the development of the phlyctenules is attended by considerable swelling and catarrhal secretions of the conjunctiva of the eyelids. Under these circumstances our local treatment must be governed by the prevailing disease. If the catarrhal symptoms predominate, astringent lotions (zinc sulph. or alum) should be applied first, to be followed by the yellow ointment as soon as the catarrhal symptoms subside. If the phlyctenular manifestations prevail, begin the treatment with the yellow ointment, and conclude it with adstringentia. And sometimes I have found the alternating plan (one day the astringent and the next day the ointment) the best to answer our purpose.

Absolute purity of the drug, and a careful preparation of the ointment are, of course, two essential requirements for success.

3. The *fascicular keratitis* (or circumscribed vascular corneitis) is a sub-species of the phlyctenular keratitis, and can easily be recognized by its peculiar local manifestations. In the transparent cornea, at a variable distance from its margin, we notice a small gray or grayish-yellow phlyctenule, which is connected with the limbus conjunctivæ by a narrow leash of fine and parallel blood-vessels. The vessels of this bundle (*fasciculus;* hence the term "fascicular" keratitis) are subconjunctival arteries and veins extended over the limbus on to the cornea. The width of this vascular band varies from a very fine red streak to a broad triangle; but its vessels are always closely packed together, showing neither ramification nor tortuosity; and they always terminate at the phlyctenule.

At the beginning the phlyctenula, probably, is formed at or near the margin of the cornea, and as the disease progresses, it is gradually pushed further and further on toward the center of the cornea in front of the blood-vessels. For often we can observe the development of a new phlyctenula at one point of the corneal margin, while at another point in the same eye, one is far advanced already toward the center of the cornea. In the further progress of the disease the phlyctenular nodule loses its epithelium, and is transformed into a small superficial ulcer (vascular ulcer). The infiltration or ulcer may travel across the entire cornea, carrying its vascular band across the center, and thus

seriously obscuring the sight. But it may stop at any point in its progress, remain stationary for an indefinite period, and sooner or later gradually fade away. Its vasicular tail then disappears also, leaving a faint gray streak behind, which, in older cases, remains as a permanent blemish of the eye.

During the progressive stage, and also while the disease is stationary, the eye shows all the signs of acute irritation (redness, lachrymation, pain and photophobia). Children afflicted with this eye-trouble shun daylight, and bury their faces in the pillow or crouch in the dark corner of the room. Now, when we consider that this fascicular keratitis is a disease peculiar to children of a poor, delicate constitution, either from strumous diathesis, or from bad food, or from chronic indigestion; when we consider that those children, to whom plenty of fresh air and sunshine are the best and most needed tonics, are deprived of these luxuries for weeks, or even months, by their sore eyes; when we consider the evil effects of prolonged confinement upon their physical and mental development—then we may fully appreciate the high value of a remedy which possesses the power to arrest the progress of the inflammation at any stage, to allay the symptoms of irritation in a few days, and to secure a speedy and complete recovery. So certain is the control of the yellow ointment over the fascic. keratitis, that we may well call it the remedy *par excellence* for this disease. It is far superior to the calomel.

In several text-books it is recommended not to employ the ointment until the signs of irritation have pretty well subsided. I cannot endorse this as good advice, nor can I find any sound reason for it. My experience is that nothing will subdue the irritation quicker than the yellow ointment. I have found its magical influence the more brilliant, the greater the intensity of the inflammation. One application was sometimes sufficient to soothe the most intense pain, to relieve the most violent photophobia, and to enable the poor child to enjoy the fresh air with open eyes which had been spasmodically and hermetically closed many weeks.

Have I pictured the merits of the yellow ointment in too vivid colors? Let the following observations, recorded during the year 1880, give the answer:

1. Geo. S., æt. nine years; vascular phlyctenula in left eye; has been treated with calomel dust the past four months. Begun treatment with yellow ointment May 13, 1880; cured May 31.

2. Anna B., æt four years; left eye, marginal phlyctenules; right eye, vascular phlyctenule reaching to center of cornea; intense photophobia and blepharospasm. Has not opened the right eye for three months. Daily application of yellow ointment from August 4 to 14; occasional treatment till September 10, when eye well.

3. Alice K., æt. one year six months; vascular phlyctenula in right eye, near center of cornea; duration two months. Yellow ointment from April 20 to May 10. Complete recovery.

4. Will. R., æt. thirty-two; May 23, 1880. Since last fall right eye inflamed, and treated with calomel. Vascular triangle occupying lower temporal section of cornea; apex near the cen ter. Yellow ointment. June 12, all traces of it gone.

5. Louis M., æt. eleven; September 5, 1880. Inflamed eyes for two years. Broad vascular band in lower half of cornea of each eye, extending to center, where small ulcer. Photophobia; blepharospasms; much redness of eyeballs. Yellow ointment. September 7, great improvement after two applications; September 20, eyes well.

6. Miss S., æt. fifty-seven; July 12, 1880. Seven years ago violent iritis of both eyes. Right eye hopelessly blind; left eye saved by iridectomy. Repeated attacks of iritis since, which always subsided by the use of atropia. Two weeks ago, left eye became very red and painful, and was not relieved by atropia. Could not bear any light; every movement of eyeball painful; profuse secretion of tears; intense pericorneal injection, especially around lower border of cornea. In lower half of cornea a narrow, semilunar gray ulcer, connected with the corneal margin by a broad vascular band. Yellow ointment, and Dover's powder internally. July 13, no pain; less photophobia; less redness. July 17, no pericorneal redness; ulcer clean and healing. July 29, eye well.

7. Amos R. G., æt. fifty-six; October 7, 1880. Had granular lids twenty years ago. Eyes inflamed three weeks. In upper half of each cornea a semilunar ulcer with sharp, infiltrated bor-

ders; broad vascular band from upper margin to ulcer. Intense pericorneal injection; pain and photophobia. Yellow ointment. Discharged cured October 31.

8. Benjamin G. M., æt. thirty; November 6, 1880. Semilunar ulcer in upper portion of the cornea, with vascular band; great pain and much redness. Yellow ointment. Discharged cured November 20.

9. Eugene Gr., æt. three; right eye, several large phlyctenules in cornea, near lower margin; vascular band to each. Yellow ointment. Under treatment from January 23 to February 14, and cured.

10. February 6; Minnie Z., æt. four; right eye, vascular ulcer in lower nasal section of cornea six weeks; great photophobia. Yellow ointment. February 8, eye open; can bear light quite well.

11 Mary F., æt. eighteen; right eye, vascular ulcer in upper half of cornea; much irritation, four weeks. Yellow ointment. Under treatment from March 5 to April 1. Eye well.

12. Child, eleven months old; right eye inflamed two weeks; swelling of tarsal conjunctiva, and much redness of ocular conjunctiva. In lower half of cornea a yellow infiltration, connected with margin by a vascular band. Treated with yellow ointment from July 3 to 12, and cured.

13. Minna L., æt. two; inflamed eyes since March. Small ulcer in center of each cornea; fine streak of vessels from lower margin to each ulcer. Cured by yellow ointment; under treatment from July 5 to 24.

14. Frank L., æt. four; infiltration in cornea of right eye, with vascular band; much photophobia. Yellow ointment July 10 to 28.

15. Annie Tr., æt. three; phlyctenule with vascular band in lower portion of cornea, right eye. Treated with yellow ointment from October 5 to 20.

16. Clara M., æt. two; right eye inflamed three weeks; phlyctenule with vascular band in temporal portion of cornea. Three treatments with yellow ointment removed inflammation and vascular band.

ARTICLE II.

THE PRESENT STATE OF OPINION ON ANTISEPTIC SURGERY IN THE UNITED STATES. BY Edmund Amdrews, M.D.

The main principles of antiseptic surgery have been approved by the majority of American surgeons. Strict Listerism, however, by which I mean, an adherence to all Lister's peculiar methods, is not generally accepted. I have recently instituted some inquiries on the subject in Chicago, Philadelphia, and New York, with the following results: In Chicago, we generally believe in the principles of antisepticism, but we adopt numerous variations in the methods of application, and do not servilely follow Lister's details.

Drs. Isham, Owens, Gunn, Lee, Fenger and myself are probably of substantially the same opinion in this respect.

Mercy Hospital commenced under my direction to use the antiseptics in modern style some seventeen years ago, simultaneously with Grey's Hospital, London. I at first tried Lister's earlier materials, viz: carbolic putty, carbolic oil and tinfoil, but soon found them inconvenient, and substituted methods of my own, which practically worked better, which in modified form I still use. I only employ the spray when cavities are to be opened, not deeming it any better than a fountain douche in simple external wounds.

The County Hospital, for a good while, only used the varying methods of the different members of the staff, but some three or four years ago, commenced a full Listerian system, performing all operations, and even all ward dressings, under the spray.

More recently this has been abandoned, and at present the methods do not materially differ from other hospitals. St. Luke's and the Michael Reese hospitals follow the modified antiseptic customs of Drs. Owens, Schmidt and Park, who attend them.

In Philadelphia, the canvass of votes is nearly as follows: The elder Dr. Gross ridicules the antiseptic system, or at least did so some time ago. Dr. J. Ashurst, Jr., has no disposition to follow Lister, but occasionally uses a wash of permang. potass.

His usual wash for wounds consists of equal parts of alcohol and water, and his cerates contain oxide of zinc or resin.

Dr. Nuncrede is a strict imitator of Lister, but uses parafine paper instead of Macintosh.

Dr. Hunter discards Listerism and dresses with hot laudanum and simple cerate, with parafine paper outside.

Dr. McLellan has a peculiar sponge dressing.

The hospitals in Philadelphia vary, of course, with the opinions of their surgeons. In a general way, their practice is as follows:

The Philadelphia Hospital gives little attention to Lister, though it uses a carbolated oil on lint, one part to 20 or 40. For a wash to wounds, lead water and laudanum are mixed.

The University Hospital washes with alcohol and water, equal parts, or with lead water and laudanum.

The Presbyterian Hospital also uses alcohol and water, or lead water and laudanum.

The Episcopal Hospital employes, sometimes, strict Listerism, and sometimes nothing antiseptic, except hot laudanum.

The spray is rarely used in Philadelphia, except by Dr. Nuncrede and a few others.

In New York the following items show the drift of opinion:

Dr. Mason, of Bellevue Hospital, uses a modified Listerism, without the spray.

Dr. Little, ditto.

Dr. Markoe, ditto.

Dr. Sands uses chloroform as an antiseptic.

Dr. Weir is an absolutely strict Listerian.

Dr. Willard Parker uses antiseptics only moderately.

In the New York Hospital, only one member of the staff uses full Listerism.

In Bellevue Hospital very little Listerism proper is practiced, though antiseptics are more or less used.

In Roosvelt, St. Vincent's and other hospitals the state of things is about the same; in short, there are very few men in New York who are full Listerians, and on the other hand there are very few who do not make a greater or less use of antiseptic dressings.

Finally, the verdict in the United States is this:

1. Antiseptics are of great practical importance in surgery.

2. It is important to observe the antiseptic general principles, but not desirable to follow all of Lister's complicated methods of application.

3. The spray is not desirable, except in dealing with large joints and serous cavities.

ARTICLE III.

INEFFICIENCY OF THYMOL AS AN ANTISEPTIC. By Edmund Andrews, A.M., M.D., Prof. Clin. Surg. Chi. Med. College.

Thymol has been very falsely lauded as an antiseptic. Scientific men have ascribed efficiency to it in solutions as weak as one part in five thousand, while others, more careful, said one in two thousand. The test of the surgical power of an antiseptic is its capacity to prevent putrefaction in animal substances. I therefore make the following experiment, to determine approximately what strength of the solution of thymol is required for practical work. The result very much lowered my estimate of this over-praised article, whose only advantage seems to be its agreeable odor.

Taking ten vials, I placed in each two grains of beef muscle, with thirty-two cubic centimeters of fluid of the kinds shown in this table. As pure water will not dissolve the quantity of thymol represented in the stronger solutions, a small percentage of glycerine and alcohol were added, to affect the solution, but not enough to materially increase the antiseptic power. The temperature of the room was kept between 60° and 75° Farenheit.

Strength of Thymol Solution....	1/8000	1/7000	1/6000	1/5000	1/4000	1/3000	1/2000	1/1000	1/500	Simple Hydrant Water.
Bacteria present...	2d day	2d day	2d day	2d day	2d day	2d day	2d day	3d day	4th day	1st day.
Putrid odor began.	2d day	2d day	2d day	2d day	2d day	2d day	3d day	4th day	No odor in ten days	2d day.

A glance at the table shows that instead of being efficient in

the strength of $\frac{1}{5000}$, it required $\frac{1}{500}$, or a solution of ten times the former strength, to prevent the development of putrid odor, and even in that solution, living bacteria were found by the microscope. A carbolic acid solution of about the same strength, showed on the tenth day neither bacteria, nor any putrid odor. It is evident from these results that thymol is inferior in power to carbolic acid, instead of being immensely superior.

Inspection of the table shows, however, that an antiseptic may retard putrefaction, and thus be somewhat useful, though not thoroughly efficient. Thus a solution of thymol of the strength of $\frac{1}{2000}$ retarded the development of putrid odor until the third day.

The actual surgical use of an antiseptic requires preparations stronger than the minimum solution found efficient in vial or bottle. A solution of one part of thymol in two thousand for instance, has a slight antiseptic power, but when injected into the complex cavity of a putrescent lumbar abscess, it is further diluted by the secretions within, and such small portions as are at last forced into the deeper recesses, are mingled with so large a quantity of putrid pus as to become wholly inefficient. Clinical experience shows that for the purification of such cavities, carbolic acid is required in the strength of at least one part in forty, and thymol should be still stronger, though the quantity can be diminished after a thorough depuration of the whole sac has once been effected.

These experiments had already been made by me before I learned that the Imperial Board of Health of Germany had recently completed a very exhaustive investigation of all the principal antiseptics. Their report shows that thymol, instead of being a very strong, is actually one of the very weakest of all antiseptics. They grant it, however, to be somewhat effective in the strength of one part in two thousand. As this report will become a standard authority in the world, I wish to caution the profession against trusting in surgical practice in the minimum strength found effective in laboratory experiments. For the reasons given, the complex pockets of a lumbar abscess, or of a suppurating knee joint, will not be disinfected by injecting minimum solutions.

In a recent case which fell under my advice, a lumbar abscess was held in perfect subjection for months, by forced injections of one part of carbolic acid to forty of water. Circumstances having placed the patient temporarily under the care of a practitioner who had faith in weak solutions, septic action was promptly set up, and in two weeks the man was in the full enjoyment of hectic fever, and of a putrid discharge from the abscess. Fortunately he returned in time within my reach, and a few days of forced injection of carbolic acid, at first in the proportion of one part to thirty and afterward of one to forty, arrested the mischief both locally and constitutionally, and restored the patient to comfort and safety.

No. 6 SIXTEENTH ST., CHICAGO.

ARTICLE IV.

THE NATURE AND AFFINITIES OF CERTAIN SUBMERGED FUNGOID GROWTHS.

By E. B. Stuart, Pharmaceutical Chemist and Microscopical Expert, Associate Editor of *The Druggist*.

(Read before the Biological Society, April 5, 1882.)

The natural history of some of the lower fungi is a matter of interest to the physician, both from the relation which these plants bear to certain diseases, and from a purely biological aspect.

The whole order of fungi occupies an intermediate ground between plants and animals, and presents here an affinity to one and there to the other grand division of living forms. Among the more highly organized fungi, as the mushroom tribe, the vegetable element predominates in a marked degree; the puff-ball fungus affords a parallel example, with which every one is familiar. Not so with the myseomycetes, some of which in their mature state, resemble a puff-ball so closely as to require the skill of a specialist to distinguish one from the other.

During the vegetative period, however, these plants have such marked animal characteristics, that one of the most eminent

authorities in this department of study, once proposed separating this order from the fungi, and transferring it to the animal kingdom. As just stated, the myseomycetes, during their entire period of assimilation and growth, exhibit all the characters of animal life. They are simple masses of protoplasm, which remain perfectly free and exhibit amœboid movements, apparently by volition. The organism retreats from strong light, and shuns dry or metallic surfaces; it spreads itself out in a network of living threads, contracts into a ball of tremulous jelly, or retracts its substance into the crevices of the decaying wood on which it lives.

The motile spores of many fungi have, when superficially considered, some characters more animal than plant-like. I refer to their active movements when set free, and the apparent sagacity displayed in seeking their future home. Still this is hardly more wonderful or animal-like than the persistent and systematic manner in which, according to Darwin, the tendrils of climbing plants search for some object to grasp.

The relation of certain fungi to disease is too well-known to the gentlemen of this Society to require mention at my hands.

The immediate subject of this paper, the consideration of submerged fungi, is a minor portion, a fragment, so to speak, of the whole. My attention was attracted to the subject some years ago by the frequent and unwelcome appearance of floculent masses in solutions of the medicinal alkaloids.

Under an inch objective, these masses have the appearance of cottony tufts, made up of white, shining threads of extreme delicacy; more highly magnified, the threads are perceived to be tubular, and, in many cases, partitioned off into long cells, which may contain ordinary granular protoplasm, or in some instances minute spherical bodies, of high refractive power, ranged along like beads, in single file. If these bodies are kept under observation, it will be noticed that the cell which contains them finally disintegrates, and they are set free. After this occurs, provided that the liquid in which they rest is of the proper temperature, and contains a supply of suitable food, the bodies in question begin to bulge a little on one side. This continues until it becomes a prolongation, and the prolongation a thread. The

group of pseudo-spores has now become the nucleus of a new growth, precisely like the first, and like the specimen before you.

(Here the lecturer exhibited various specimens, at different stages of growth, under the microscope.)

If any doubt exists as to the vegetable nature of this growth, suitable tests may be applied. It will be found undoubtedly vegetable in its composition. If, however, an attempt is made to locate the plant botanically, the effort will be fruitless. But one small order of eight or ten species among the fungi is aquatic, and the members of this order are all parasitic upon animal substances, and the method of fructification in that order is altogether different from that just described. The spores in the aquatic fungi are developed in well-marked sacs or asci, while these are formed in any portion of the filament indifferently, or, at least, apparently so, for there are no indications of a sac or difference of structure to suggest a special function for this portion of the filament. Then the spores of the saproligniæ, or aquatic fungi, are motile. As soon as set free, they swim actively about, while these pseudo-spores are as motionless as the seeds of the narcotic poppy. The plant corresponds to none of the described fungi, and it certainly does not belong to the algæ, for it contains no chlorophyll, and grows in the dark as well as in the light. The specimens on the table grew in the box which now contains them, and the box has been kept in a drawer of my desk. No chlorophyll-bearing plant would thrive for any length of time under such conditions. If a specimen is transferred from one of these phials to pure water, growth ceases and it soon disintegrates and disappears. If, on the other hand, it is brought into Pasteur's solution, or Mayer's pepsin solution, it grows rapidly until the liquid is quite filled with the plant, and assumes the appearance of a doughy mass.

Now, the experiment may be varied somewhat, and instead of immersing the plant in Mayer's fluid, it may be supplied with a sufficient quantity of this or that suitable food in an ordinary growing cell, or one of Tyndall's culture boxes.

Under these conditions the mass vegetates luxuriantly for a time, and finally sends up delicate hyptræ, bearing its fruits. This affords the means of identification, and in most cases the

plant will be found to be some one of the five or six most common molds.

If you brush a camel's hair pencil lightly over a mass of common blue mold and then rinse it in a solution of morphia or strychnia, or, in fact, in almost any of the common medicinal alkaloids, and allow the liquid to stand quietly, at the ordinary living temperature of your rooms, for a few days, these fungoid growths will make their appearance, and may be cultivated for years without ever assuming their normal condition or bearing their proper fruit. This mode of vegetation seem quite analagous to the growth of a perennial plant, which, under favorable conditions of soil and climate, will continue to vegetate for many years without bearing fruit. On removing our submerged pericillium from the liquid in which it was growing under abnormal and unfavorable conditions, it soon resumes its normal habit and bears its proper fruit. In the course of my experiments with these fungi I employed the spores of a great variety of species and varied the conditions of growth as widely as my ingenuity suggested methods. In one or two instances I was able to keep the same plant in this submerged condition for more than a year, and finally to secure its normal fruit on restoring it to the air. The experiments were conducted with reasonable care to guard against infection from spores floating in the air, and the results may, I think, be accepted as indicating strongly the true nature of the growth and its relation to other fungi. Two practical questions hinge upon these experiments, namely: The effect of the growth of the plant upon an alkaloidal solution, and the best means of preventing their growth. In regard to the first point, it is quite clear that any increase in the weight of the plant, beyond that of the spores originally added to the solution, must, if the water used was free from organic matter, have been derived from and at the expense of the alkaloid itself.

While a chlorophyll-bearing plan[illegible] feeds mainly from the acriform matter around us, will [illegible] of earth without taking anything like [illegible] from the soil, this is not the case wi[illegible] nitrates, and, like animals, deriv[illegible] mineral kingdom at second [illegible]

ducing carbon dioxide from the air, and under the circumstances before us, must break up and decompose the alkaloid in which they grow and appropriate it to the formation of their own tissues. It is well known that certain fungi are able to decompose comparatively stable and simple compounds, as sugar, urea, etc., etc., to build up from the material so obtained more complex and less stable substances. Some of these reactions are of commercial importance, and have been very carefully and thoroughly studied, and the nature of the decomposition and the composition of the products are well known. In the case of the medicinal alkaloids, however, the nature of the decomposition of the products formed is, I believe, entirely unknown, and while the changes are, in a general way, undoubtedly analagous to the decomposition of sugar by yeast, we know nothing of the physiological effects of these decomposition products upon the animal organism.

The growth of these fungi may, of course, be prevented by any of the ordinary antiseptics. In solutions for hypodermic use, as small a quantity as 5 per cent. of common alcohol will entirely prevent them. They will seldom make their appearance in solution made with the aromatic waters, as peppermint or dill water. If, in addition to this, the solution is warmed to about 150°, when otherwise completed, and reasonable care be exercised in keeping the container closed, no apprehension of their growth need be felt. For the use of pharmacists, who find these solutions convenient for the dispensing counter, this little contrivance (both with cotton filter and small accessory tube through the cork), the idea of which, you will notice, is that of Pasteur's cotton filter, is useful. The solution is filtered into the bottle, the cork carrying the two tubes inserted, and the whole affair placed in the water bath and heated sufficiently to kill any spores that may be present, the exit tube, bent at a right angle, has a sufficient length to intercept all spores on their inward course, and the funnel tube, which supplies air as the liquid flows out, is stuffed with absorbent cotton, which effectually stops the passage of spores through that tube and preserves the liquid from infection. (See discussion of the paper in Society Reports.)

Clinical Reports.

ARTICLE V.

TRAUMATIC LUXATION OF THE FOOT.

N. Wokotawia, æt. fifteen, was admitted on October 15, 1881. He states that while skating, in the winter of 1880, he fell and hurt his right foot. The ankle joint had been much swollen at that time, especially about the external malleolus, and there was a good deal of pain, but no deformity. The doctor called to attend him applied cold water dressing. Three days later, erysipelas having set in, the doctor made some incisions on the outside of the ankle, and thick mattery discharges escaped. About the same time a few abscesses, communicating together, opened spontaneously on the inside of the foot and lower part of the foot and lower part of the gastrocnemius muscle, giving rise to several fistulas. The patient lay sick from four to five months, during which time these fistulas healed, and there had been no caries of the bone. When the patient left his bed, there was no anomaly in the shape of the foot, which was straight, and he was able to walk. The foot became twisted later, however, and subluxation of the knee-joint took place, as subsequent examinations showed.

Actual condition:

Patient well developed for his age. Internal organs normal. Both lower extremities, from the anterior spine of the ilium to the malleoli, were equal in [illegible] right foot showed a medium degree of plan[illegible] extremity of the right foot being [illegible]ive and passive motion were imp[illegible]nternal malleolus was enlarge[illegible]nd on the

outer side of the ankle, a scar was left, which adhered to the bone. There was another scar at the point of attachment of the tendon Achillis, from a bedsore caused by decubitus.

Operation:

October 20, patient was anæsthetized, and trials were made at straightening the foot, but failed. Accordingly, on the 26th, they proceeded to cut. They removed a piece of the malleolus with a chain saw, resecting a piece of the bone, and bringing the remaining pieces together, thus straightening the foot. The wound was dressed with iodoform, and covered with an Argantin bandage.

Course:

October 27, temperature normal; dressings, saturated with blood serum, were not changed. The Argantin bandage was reapplied. On the second day of November, the temperature was normal, the discharge had stopped, and the dressings were dry. November 4, bandage changed. Except a few granulations, the rest of the wound had healed. Drainage tube was removed, iodoform and Argantin bandage reapplied. November 21, the temperature had been normal thus far, and there had been no pain. November 22, wound was entirely healed, and united nicely.

CARCINOMA OF THE TONGUE.

A. Uiberwassir, a peasant forty-nine years of age, was admitted November 30, 1881. He had been complaining for the past four months of a stinging pain in the left half of the tongue; three weeks later, he noticed an induration, which grew steadily, but caused no pain, except in eating. Lately, the tongue ulcerated, and another painless tumor appeared eight days later, behind the left lower maxillary bone. Patient had never contracted syphilis, or any venereal affection. There was no history of hereditary diseases in the family, and he never smoked.

Present condition:

The patient was of a medium stature, well built, well fed, and otherwise normal. On the left side of the tongue, between the middle and the anterior third, there was a fungiform papilla, whoae surface was covered with lardaceous granulations. The

tumor had grown as far as, but had not affected, the glosso-palatal arch. It was impossible to ascertain how deep the tumor extended into the tongue, but the infiltration had not reached beyond the middle line. It had grown beneath into the maxilla, and was hard, though not painful. Patient had a fetid breath. Another tumor was found behind the condyle of the lower jaw. It was the size of a hazel nut, was movable, painless, and did not adhere to the skin.

Treatment.—Iodoform tampons were introduced into the mouth, after which the fœtor ceased, and the ulcerations healed.

Operation:

November 9, the patient was anæsthetized, the parts carefully cleansed, a circular incision was made over the lymphatic tumors, scraping the lower maxillary bone, and the lingual artery dissected out. The submaxillary glands, which were enlarged, though otherwise normal, were removed. The external maxillary artery was tied, as well as the lingual, seven or eight diseased lymph glands were removed, and it was found that the tumor extended to the external carotid artery, and included the internal jugular vein, so that a portion of the latter, two cent. in length, was removed between two ligatures. Iodoform gauze was applied. A speculum was introduced into the mouth, and the tongue drawn out with a hook. The tumor was now cut out with scissors, and a few remaining pieces were removed later. Half of the tongue was thus removed. There had been but little hæmorrhage, and it had been stopped with tampons of iodoform gauze. A large drainage tube was laid in the internal wound, and a smaller one laid in the external wound, iodoform dressings were applied, and covered over with oil silk waterproof cloth (McIntosh) and bandages. Patient was fed through a tube.

Course:

November 10, the temperature was 38 C. Patient was able to drink without difficulty. The dressings were removed, the drainage tube cleansed, iodoform re-applied, and dressings renewed.

November 11, no fever; patient speaks intelligibly, and drinks without pain. A fibrinous exudation had taken place in the pharynx on the edge of the wound, and it was insufflated with

iodoform. The discharge had diminished, and the general condition was good.

November 13, both drainage tubes were taken away. November 15, the tampons were renewed. The discharge had no bad odor. November 16, Lister's dressings were removed. The external wound had united, except at one point, where some discharge oozed. No more tampons had to be introduced into the mouth.

November 21, complete healing of all the wounds; patient speaks pretty well, and eats almost anything without any difficulty.

EXCISION OF THE PYLORUS.—At the meeting of the Royal Medical Society of Vienna, on December 16, Dr. Wölfler exhibited a woman upon whom Professor Billroth had performed resection of cancerous pylorus two months before. The procedure in that case differed from that of others, in that the duodenum was not at once divided, but its posterior wall was first fixed to the stomach by sutures. The operation lasted an hour and a half. Microscopic examination showed that glandular cancer existed, but that no cancer elements had yet appeared in the lymphatic glands extirpated at the same time. Dr. Wölfler also showed the woman upon whom he had similarly operated eight months before. No recurrence had taken place. Her digestion is quite normal. —*Lancet.*

SMALL-POX, as an epidemic, now seems to be retiring before the well-directed efforts of local and general sanitarians. It has made its appearance, so far, at only five localities in Tennessee, viz.: Martin, Memphis and Fayette counties, in the western; Kingston in the middle, and Galveston in the eastern division of the State. The one case at Kingston (only eighteen miles off, and the nearest to Nashville) has had none to follow in its train. It was contracted from exposure to contagion on a steamer from Pittsburg. The case recovered. So far, Nashville has not had a single case for now six years. So much for thorough vaccination.—*Southern Practitioner.*

Society Reports.

ARTICLE VI.

CHICAGO MEDICAL SOCIETY. Annual Meeting.

The Chicago Medical Society held its annual business meeting at the Grand Pacific Hotel, on the evening of April 10, 1882, E. Ingals, M.D., President, in the Chair. After the minutes of the last meeting were read and approved, Dr. James G. Kiernan was admitted to membership, and Dr. B. Rel VanDoozer, graduate of Chicago Medical College, 1868, was proposed for membership by Drs. L. H. Montgomery and Wm.E. Quine.

Also, Drs. N. N. Hurst, graduate of Jefferson Medical College, 1872, and W. C. Maull, graduate of the University of Louisville, 1869, were proposed by Drs. G. O. Taylor and E. W. Sawyer.

The Secretary, Liston H. Montgomery, then proceeded to read his annual report, as follows:

Mr. President and Members of the Chicago Medical Society:

—I have the honor to present the second annual report of the present incumbent as secretary of this society, which, summarized in brief, is as follows:

During the year 18 meetings have been held, and 304 members have been in attendance at 17 of the meetings, which does not include the one to-night. There were also 99 visiting physicians; or in all, 403 persons. Compar[illegible] the number in attendance the year previous, there has [illegible] average of 26 members and 25 visitors; or 51 persons. [illegible] number of members in attendance at [illegible] 12 of visitors 6; or a total numb[illegible] the society, com[illegible]

At the last ann[illegible]

membership. Adding to this nnmber the 18 new members admitted, we have 204. This number has been decreased, however, as follows: Deaths, 3; resignation, 1; removal from the city, 3; and for obvious reasons 6 names have ceased to appear on the membership list. This deficiency of 13, then, leaves a corrected list of 191, and no less than this number of postal card announcements have been issued for each meeting. The following comprise the list of papers that have been read, many of which are of a high degree of merit, and as such are recorded in the minutes of the society:

(1) "Vaccination, and Varieties of Virus now in Popular Use."—Oscar C. DeWolf.

(2) "Rotheln, or German Measles."—Chas. W. Earle.

(3) "Numbers and Measures, with Scientific Corrections, with Reference to Dispensing Medicine."—F. M. Weller.

(4) "Report of a Case of Maternal Mother's Marks."—H. D. Valin.

(5) "Cremation."—Chas. W. Purdy.

(6) "Some Impressions of the International Medical Congress of 1881; being Personal Observations on the Section on Gynæcology and Obstetrics."—DeLaskie Miller.

(7) "Is there a Chronic Carbolic Acid Poisoning?"—Edmund Andrews.

(8) "Model of an Astygmatic Eye, demonstrating the Refractive Condition of the Organ."—Lytton Forbes.

(9) "Report of Cases in Ophthalmology."—E. L. Holmes.

(10) "Operation for the Total Extirpation of the Uterus (through the Vagina) with Recovery."—Chr. Fenger.

(11) "Predisposing Causes of the Alcoholic and Opium Habits."—Mary H. Thompson.

(12) "Disposal of the Dead."—W. H. Curtis.

(13) "Report of a Case where a Large Splinter of Wood had been Buried in the Superior Maxillary and Zygomatic Fossa for Fifteen Months, with Operation for Removal and Recovery."—Roswell Park.

(14) "Malarial Keratitis."—F. C. Hotz.

(15) "Report of a Case of Tetanus caused by a Foreign Body in the Orbit."—F. C. Hotz.

(16) Management of Parturition."—Ephraim Ingals.

(17) "Opening and Drainage of the Large Joints in Suppurative Synovitis."—Chr. Fenger and E. W. Lee.

(18) "Health Resorts."—Chas. E. Davis.

(19) A Report on the Treatment of Fifteen Cases of Typhoid Fever.—H. D. Valin.

(20) Fracture of the Frontal Bone, resulting in Necrosis of the Cranium."—John Bartlett.

(21) Supra-Malleolar Osteotomy."—Chr. Fenger and E. W. Lee.

(22) "Simulation of Insanity by the Insane."—James. G. Kiernan.

But few special committees has it been found necessary for the President to appoint, hence work in this direction has been limited during the past year. Especial mention is due, however, to the memorial committee appointed a few weeks since, who prepared a biographical sketch, with appropriate resolutions, of a deceased member. And the same compliment will apply to the committee which subsequently presented the "series of resolutions" to a near relative of the deceased.

To recapitulate, then, in a word: One more meeting has been held during the past year, and two more papers presented, than has been done before in some years, to our knowledge. The membership has been actively increased, and the Chicago Medical stands as the banner medical society of the city, the Illinois State Society excelling it only in numbers, not in talent, as many of our members belong to that body, as well as to the American Medical Association. During the past year, we were represented at the International Medical Congress that was held in London, and our delegates were received in medical and surgical associations in many other of the great European cities besides. At home, we were represented at the meeting of the American Public Health Association held at Atlanta during the latter part of the year 1881, and thus, has our influence been extended over a pretty broad expanse.

Before closing this report, your attention is invited to dwell upon two or three suggestions, which, if carried out, would, I trust, aid my successor in performing and lessening the duties of

the secretaryship very considerably, and aside from this, as a member of the society. Our business would be transacted in a more general, professional manner, if we held our meetings once a month (say on the evening of every third Monday), and to do so the entire year around, for it is apparent to each of you, that the attendance after the vacation of the summer months, does not regain itself to that point which was previously the case before adjournment. Second. With the initiation of every new member, I would favor the plan of their being required to read, within three months from the time of their admission, an "inaugural thesis," as much, indeed, as annual dues should be exacted. To my mind, one or the other of the above methods (perhaps the latter plan) is an essential one, and an important step in the right direction.

In the discussions, I am sure none during the past year could have felt more at ease, for our worthy President did his part to have us all know that formality was not the popular method of discussing topics, and on a number of occasions, it was especially desired that practical suggestions should be advanced by new members in participating, who otherwise would not have done so, had not their views been solicited.

History informs us that this is our thirty-second year of existence, and our annual meeting one year hence will constitute the ter-centennial anniversary. Let us emulate somebody, if we cannot do it otherwise, and inaugurate a graceful custom of celebrating this ter-centennial anniversary of the society by having a splendid oration delivered (one gotten up expressly); and, as banquets seem to hold a high plane on the surface of æstheticism, close the business and exercises of the annual meeting with a fine banquet, etc., etc.

And now, before retiring from the distinction of secretary of this society, I wish to thank the members for courtesies extended, and my only regret is that I have not served you better, and that greater triumphs and achievements have not been the result; but which, I hope, are within the near future.

All of which is respectfully submitted by

LISTON H. MONTGOMERY, M.D.

Dr. C. T. Fenn moved that the secretary's annual report, just read, be accepted and adopted; also that a committee of three be appointed by the chair, to take action on the recommendations embodied in the report. The chair then appointed Drs. A. R. Jackson, R. G. Bogue, D. W. Graham, J. H. Hollister, committee. The chairman was appointed on the motion of W. H. Curtis, thus making the committee five in number, instead of three, as the original motion called for.

The treasurer, Dr. E. F. Ingals, presented his report, which is as follows:

RECEIPTS.		
April 4, 1881, cash on hand	$156.32	
April 4, 1881 to April 10, 1882, collections of annual dues and initiation fees	323.00	
		$479.32
EXPENDITURES.		
April 7, 1881, paid J. B. Drake & Co. for use of rooms	$50.00	
April 4, 1881, to April 10, 1882, stationery, postage and writing	15.35	
April 4, 1881, to April 10, 1882, printing and postals for notices of meetings	61.00	
Paid collector commissions on delinquents	6.90	
		$133.25
Leaving balance on hand		$346.07

The financial report was, upon motion duly seconded, adopted. A list of names was then read by the treasurer who were indebted to the society for two or more years' annual dues. Upon motion of Dr. L. C. Waters, that these members be expelled for non-payment came near being carried, when it was modified by carrying out article IV of the by-laws, which reads that their membership in the society is declared forfeited.

The election of officers was then proceeded with. Dr. G. C. Paoli moved, duly seconded, that the first ballot for President be informal. The following names, with the number of votes, was the first result:

Whole number of votes cast for President was 32—A. R. Jackson, 5; J. H. Hollister, 9; D. W. Graham, 6; E. Ingals, 4; DeLaskie Miller, 3; F. C Hotz, 3; G. C. Paoli, 1. Drs. Miller, Graham, Jackson and Ingals declined with thanks, when Dr. J. H. Hollister was chosen unanimously on the first formal ballot as President.

First ballot for Vice-President resulted as follows:

Whole number of votes cast, 33—D. W. Graham, 7; Emma Gaston, 15; A. H. Foster, 5; DeLaskie Miller, 2; S. J. Jones, 1; M. H. Thompson, 1; R. G. Bogue, 1; L. C. Waters, 1. Dr. Emma Gaston declined with thanks, and the second ballot resulted in Dr. D. W. Graham's receiving the majority, and he was declared elected Vice-President.

Firt formal ballot for Secretary was as follows:

Whole number of votes polled, 33—L. H. Montgomery, 20; C. W. Purdy, 1; A. P. Gilmore, 1; E. J. Gardiner, 6; L. C. Waters, 1; H. D. Valin, 1; A. H. Foster, 3. When the result was announced, Dr. L. H. Montgomery was declared elected to the secretaryship.

Upon motion of one of the members, the Secretary was authorized to cast the vote of the society for Dr. E. Fletcher Ingals, as Treasurer, which was accordingly done.

The new President was invited to take the chair, when the retiring President, Dr. E. Ingals, spoke as follows:

"I am glad of the opportunity to thank the members of the society for having, by their acts during the year, made the duties of its officers pleasant and easy. The history of the society, both in numbers and influence, was never before as good as it is to-day, and this will be advanced by every recurring year. When the last of our circle is gone, I doubt not this society will remain, and the labor we each individually give it will become a part of its history, and the influence we exert upon it may be so incorporated into its structure as to survive after our very names may be forgotten. But though we have done well, we have done less than we ought. Every one worthy the name of a physician owes much to his profession. All scientific organizations which have its advancement for their object should receive their hearty support, and especially should our medical teachers contribute generously to their transactions. It is true, many individual engagements demand their attention, but they should not neglect society work. Where much is given, much should be required. By a more thorough performance of their duties in this matter, they would greatly benefit the profession, and in return they would be benefited themselves—possibly in a still greater degree, for it is the

law of all labor that the greatest reward is to him who does the work, for the reason that such work strengthens and improves the mind and builds up the character, and these results have worth above and beyond all that is external and transitory.

"Chicago is already among the important medical centers of this country, and we should each of us aid as much as we may to give it a more excellent rank. The names of the best known medical men of this nation constantly appear in the transactions of the various scientific associations of the large Eastern cities, and the credit they are to the profession is reflected upon themselves.

"Chicago is outgrowing its childhood, and it should make its manhood known by its works. That it will do this I have a firm assurance, and let us all, individually and collectively, help to push forward the good work."

A motion by Dr. F. M. Wilder was duly seconded, that the thanks of the society were due the retiring President, and all the other officers, and should be spread upon the records, for their services. Carried.

Dr. E. Ingals then moved that $50 be donated to Mr. John B. Drake for the use of the parlors the past year—also that a token of regard in the form of $25 be voted the Secretary. Both motions were carried unanimously.

Dr. D. W. Graham, on behalf of the memorial committee appointed a few weeks ago, offered the following report on necrology:

Dr. James Allen Mead was born in Otsego county, New York, February 8, 1841. He died in this city February 16, 1882, after an illness of two weeks, of typhoid fever. He received a common-school education in his native place, and took an academical course at Cazenovia, N. Y.

Eighteen years ago he came to Chicago, and engaged in the retail drug business. He studied medicine in Rush Medical College, and graduated in 1876. The last two years of his life were spent exclusively in the practice of medicine, in which he had a good measure of success. He became a member of this society in 1881. Your committee, in addition to the foregoing history, would respectfully offer the following resolution, as ex-

pressing the sense of this society, and ask that it be spread upon the records:

That in the death of Dr. Mead, this society, and the medical profession, have lost a worthy member, whose private and professional life were characterized by the highest honor and integrity.

JOHN BARTLETT,
G. C. PAOLI,
R. C. HAMILL,
D. W GRAHAM,
} Committee.

The committee on membership and miscellaneous business, consisting of Drs. G. C. Paoli, J. H. Etheridge and E. L. Holmes, was continued.

The hour was deemed too late to hear the papers read, as announced, hence a motion to defer their reading until next meeting was carried.

The society then adjourned.

LISTON H. MONTGOMERY, *Secretary.*

ARTICLE VII.

CHICAGO MEDICAL SOCIETY.

Stated meeting, April 17, 1882. Dr. J. H. Hollister, President in the chair.

After the reading of the minutes of the last meeting, by Dr. L. H. Montgomery, secretary, Dr. Hollister read a carefully prepared paper, on the recent prevalence of typhoid fever in Chicago. The questions briefly discussed were, (*a*) What is Typhoid Fever? (*b*) How is it developed? (*c*) What is the manner of its propogation? (*d*) How may we account for its recent prevalence in Chicago? (*e*) What means are available for its control?

Typhoid fever was not, as its name implied, closely allied to Typhus fever, although it was more than a constitutional disturbance caused by a local lesion, and the whole system seemed to suffer from the presence of a specific typhoid poison, which also accompanied anatomical lesions through its entire course.

The lesions in the disease might be divided into two groups: The first seemed to represent the more or less direct effect of the typhoid poison as found in Peyer's patches, in the solitary glands, in the mesenteric glands and in the spleen, involving the lymphatics of the intestinal canal. In the second group, those affections were found which resulted from the general disease. These were mainly the parenchymatous degeneration which in extent and intensity, depended upon the severity and the continuance of the general disease, notably the fever. These degenerations were found most frequently in the liver, the kidneys, the voluntary muscles, and the muscles of the heart, in the brain and the lungs, and the mucous membrane may also be the seat of tissue degeneration if the case were long continued and severe. The lesions of the intestine had been a matter of constant and interesting study. The agminated glands of Peyer became involved as though the specific poison at this particular portion of the alimentary canal sought entrance to the general circulation and here first produced its characteristic effects.

The author of the paper, here exhibited some well-prepared specimens, and described with minuteness the pathological changes that occurred during a four weeks' course of the disease, *i. e.*, where cicatrization was perfected and convalescence had been established. The decomposition of organic matter undoubtedly contributed more to originate the disease than any other single cause, but it must be a specific form of poisoning from animal matter, and especially dependent upon the decomposition of feculent discharges of human product. Filth and decomposition tended strongly to intensify the disease once developed, and the same was true of defective sewerage.

Regarding the manner in which typhoid fever was propagated, it was not disseminated by simple contact with persons having the disease, and therefore it must develop from a miasm outside the human body. In superficial vaults and cesspools the specific poison might multiply itself to an incredible extent, infecting the earth, the air and water, and the vitality of the poison could maintain itself for a longer time than could the specific poison producing cholera.

During the last eight months, 572 deaths from typhoid fever occurred in Chicago—in Cook County Hospital, where 100 cases were treated, 16 died. This ratio made the probable number of cases of typhoid fever in the city during the last eight months, 3,575. The fifth, sixth, ninth and fourteenth wards had by far the largest representation. The fatality of typhoid fever gave warning of what was in store for us if the sanitary conditions of the city were allowed to remain as they were—and the means available for the control of the disease, were for the authorities to see that the tunnels were kept free from contamination with drain and shore pollutions; and the sewers must be looked to. The Illinois and Michigan Canal should be utilized for the drainage of Chicago.

Dr. N. S. Davis remarked that there had been 143 deaths from typhoid in eight months, from April to December, 1880; that there had been 520 deaths from the same cause in the corresponding months in 1881. The Doctor highly recommended iodine in the treatment of typhoid fever.—See the JOURNAL for February, 1882.

Possibly we had in iodine a general alterative, not depressing in character, and also an antiseptic. Bromine, he had used years ago; it actually diminished the disease, but it was difficult of administration on account of its pungency. He considered iodine the leading remedy. He used it for the last six months in hospital and private practice, together with some other remedies, turpentine emulsion, sponging, the wet sheet, etc. In 27 cases, one died, but the disease had become complicated by bronchopneumonia and laryngitis. The Doctor gave iodine in the following manner:

℞ Iodini.....gr. viii.
Potassii iodidi.....gr. xxx.
M. Aquæ distil..... ..... ℥jss.

S. 12 to 15 drops in sweetened water every three hours, for three or four consecutive days.

Dr. J. G. Kiernan read a paper on the occipital lobe in relation to intelligence, in which he called attention to the fact that the importance of the frontal lobe has been much over-estimated. He claimed that in the occipital lobe were to be found the great

ssociation centers of the brain, and as upon these depended man's intelligence, the full development of the occipital lobe was necessary to constitute a well-balanced cerebral system. He cited as corroboratory evidence the fact that the occipital lobes occur only in the primates, being absent even in the lower monkeys, whereas frontal lobes are found in all mammalia, and the fact that the occipital lobes are the last to make their appearance in the fœtus. The occipital lobe was markedly deficient in the reasoning maniacs. In this connection the cast of Guiteau's head was exhibited, which was described as being very exact, and upon inquiry, Dr. Kiernan stated that Guiteau's skull is three times the usual amount of asymmetry.

Dr. D. R. Brower followed with some interesting remarks, in which he quoted Dr. Gray, of the Utica Asylum, as having stated as an expert, at the trial of Guiteau in Washington, that the criminal's skull was of a normal asymmetry.

MEETING OF MAY 1.

Dr. F. C. Hotz reported some typical cases of malarial inflammation of the middle ear. His treatment consisted in giving from three to five grains of quinine four or five times a day, and the cure was complete in a week, and the hearing restored to its primitive condition.

Dr. J. H. Hollister had noticed, as a secondary result of malarial fever, that the secretory membranes were all liable to be affected, and it was a matter of importance to him to see that Dr. Hotz, in his paper, had specialized that morbid action in its relations to the ear.

Asked if the disease was neuralgia, Dr. Hotz answered that it was rather inflammatory and constitutional, and that the impairment of hearing was greater than in ordinary local inflammations.

Dr. Clark remarked that nine-tenths of the cases of pain and buzzing in the ears were referred by the patients to a previous use of quinine, and he believed in such a connection between the two; he knew of some persons who were unable to take that medicine, even in small doses, on account of the buzzing occasioned thereby.

Dr. Rosa Engert related a case of malarial fever in the course of which acute otitis took place, followed by a free discharge of

pus. The patient was kept on quinine, two or three grains at short intervals, and made a good recovery, the ear healing in a short time.

Dr. W. T. Montgomery had seen two cases which he classed as malarial otitis, although not very typical in character. A free discharge of pus from the ear was taking place when he saw them. Hot water, astringents, local blood-letting and the various means used in such cases failed to give any relief, and seemed to aggravate the disease. After a few days he gave large doses of quinine, which brought speedy recovery. The treatment in these cases had been the only means of furnishing a diagnosis.

A case resembling the above was reported by Dr. Gardner. A lady who had had malarial fever years ago had subsequently suppurative otitis, with inflammation of the mastoid cells. The disease stopped in her right ear, but in the left it remained stationary. He was called to see the patient after she had had a chill, and he gave three grains of quinine four times a day, which brought on recovery. Dover's powders were also given. Three months later another attack of chills and fever set in, for which he gave quinine, followed with speedy recovery.

Dr. S. J. Jones said we were all well aware of the complications which may accompany malarial fever. He had noticed that the preceding cases were chronic, hence liable to be aggravated by various causes. He had yet to see his first case of malarial otitis. In most cases, he thought, there had been exposition, and their various symptoms were complications and aggravation from malarial irritation. He should look at the related cases as such. We knew very well the beneficial effects of quinine under the circumstances, but any tonic would also give similar results. The periodicity of the attack was not a sufficient proof. He had seen permanent impairment of hearing follow the use of quinine. As to the cases of malarial otitis related, he believed that malarial poisoning had much to do with them, but he would not class them as malarial, except as complications.

Dr. E. Ingals said that it was an old observation that quinine affected the ear markedly, impairing the hearing when given in large doses. The practice had been confined to a malarial district, but he was so convinced of the ill effects of quinine that he

always gave it in rather small doses, and never gave it in cases where the hearing was in any way affected.

Dr. Hotz, reviewing the criticisms passed on his reports, said that he certainly did not mean to state that any case of otitis relieved by the administration of quinine was malarial. In almost all cases of chronic catarrhal inflammation he would agree with Dr. Jones; but as to the typical cases, their existence could not be denied. The fact that under ordinary treatment these cases had gone from bad to worse, while the antiperiodic use of quinine brought immediate relief after a case of this nature had extended over months, and healed in a week with quinine, was sufficient evidence to separate it from ordinary catarrhal inflammation. Those cases *do not* get along as well with other tonics, nor did he consider quinine a tonic in such doses and in such cases.

There were cases of inflammation of the ear, purely local, without constitutional disturbances, which he had seen heal without treatment. He had also seen cases in which syringing had been kept up a long while, get better after stopping all treatment.

INSANITY FROM TRAUMATISM.

Dr. William P. Verity, ex-interne of the Cook County Hospital, related a case of this nature which had some medico-legal relations, as the patient committed suicide. In 500 cases of insanity observed by Dr. Kiernan, 49 were classed as traumatic. In these dull pain, fainting, delirium, immediate or subsequent, had occasionally taken place. There had been a tendency to brain congestion, noises in the ear, and in a few cases changes in the pupils and in the smell. There had been outbursts of temper, and, in fourteen cases, attempts at suicide. The prognosis was unfavorable. Certain psychoses were liable to form, the majority of which ended in progressive paresis. Heredity had very little to do with it. Injuries to the brain before the age of forty were more liable to give rise to such diseases than when taking place later. Some cases had well marked delusions.

The case which came under the observation of Dr. Verity was that of a man fifty years old, who had previously enjoyed good health. He was industrious, drank beer moderately, and was careful of his personal appearance. On December 3, 1878, he was thrown on a truck by an engine, and his head hit on one

side. He afterward felt pain in that part of his head; he became disinclined to work; his sexual appetite, hitherto moderate, increased, and he became intemperate. He had tinnitus aurium, and became loquacious. December 24, 1881, he struck his wife, and some people tied him down for the night. The next morning, the influence of liquor having passed away, he still menaced to kill his wife. December 26 he hung himself and died. The autopsy showed extensive adhesions of the cerebral meninges, but the brain substance appeared normal. Dr. Verity pronounced the case one of traumatic insanity.

Dr. Kiernan agreed with the author of the paper in his diagnosis, but he did not believe the title quite fitted to represent that class of mental diseases. He was convinced of the fact that very slight injuries had a great bearing on the types of insanity subsequently developed in such cases. Lesions were not always discernible, though probably always present.

Dr. E. Ingals asked whether suicide was not a definite proof of insanity in every case.

Dr. Kiernan was persuaded that he had met sane suicides.

The President related a case of traumatic insanity also.

ARTICLE VIII.

CHICAGO BIOLOGICAL SOCIETY. Stated Meeting, April 5, 1882. Dr. C. Fenger, President, in the Chair.

The minutes of the last meeting were read by Dr. Lester Curtis, in the absence of the Secretary, Dr. Roswell Park, who has gone to spend the summer in Europe.

The paper of the evening was read by Mr. E. B. Stuart, associate editor of *The Druggist*, and had the title: "The Nature and the Affinities of Certain Submerged Fungoid Growths." (Published in this number of the JOURNAL.)

Discussion.—Dr. Plim. S. Hayes asked the lecturer whether boracic acid would prevent the growth of fungi in alkaloidal solutions, and was answered in the affirmative.

Dr. C. Fenger remembered a proprietary article called *asepsine*, which had been sold extensively for destroying molds, and

which contained nothing but boracic acid. Dr. Fenger said that the subject of organic germs was acquiring an important notoriety of late. He classed the forms known as aspergillus and mycelium among fungi.

As to their relation to pathological processes, but little yet was known. The first of them found to be harmful was *oidium albicans*, which causes in children the disease called thrush or muguet. This fungus was thought harmless at first, but it was subsequently found that in rare cases it had extended to and covered the walls of the stomach. The fact was also noticed that sometimes molds had been found growing in the external ear of persons who had slept near damp walls, and the fungus was supposed to have come from the walls.

The next form investigated was a dangerous one, and caused the disease called *actino-mycosis*, which resembles pyæmia. It was supposed to start its growth in some hollow teeth, thence extending in small abscesses to the submaxillary and other glands, and from there extending to and starting abscesses in the various parts of the body, causing death through pyæmia. These fungi were visible to the naked eye, the pus from the abscesses containing small grains resembling seeds. A plain mycelium was seen under the microscope. The theory was, as to those cases, that they always started from hollow teeth, though but little was known about them. These were all the fungi known to have multiplied in the human body.

Of late, however, experiments had been made with various fungi, the *Penicilium* and others, and, after they had been cultivated in certain manners, they were injected into the lower animals, dogs and rats, and in a great many cases the animals died in two, three, or five days. At the autopsy, small visible plaques were found in the kidneys, and under the microscope the mycelium of the fungus was always present.

However, these experiments were not perfect, and unimpeachable, for it had not always been possible to exclude any other form of fungi from those under observation.

Dr. Fenger should not wonder if the fungi studied by Mr. Stuart, under some circumstances, might be injected into the blood and there multiply. Although there were no cases on

record pointing to that view, this should not stop researches, which were so meagre on that subject. It was a matter of some importance whether by the use of muddy solutions of alkaloids with a hypodermic syringe, some fungi would not be injected into the blood of patients.

In cases where patients died after the use of hypodermic injections, it would be well to look for plaques of mycelium in the kidneys and other viscera.

Mr. Stuart said that, as to the growth of fungi (saprolignæ) on animals, it was not infrequent. Flies were attacked that way, and so were certain fishes. These fungi might grow in the blood of other animals also, especially the warm-blooded, as a higher temperature was specially favorable to their growth. He had noticed that the spores of certain fungi, furnished with two filaments, had an individual motion, and sought the interior of tissues where to grow, as if they had been endowed with volition, and he looked upon them as possessing some intelligence, involving choice.

ARTICLE IX.

AMERICAN MEDICAL ASSOCIATION, PHILADELPHIA, No. 1400 PINE ST. The Thirty-third Annual Session will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday, and Friday, June 6, 7, 8, 9, 1882, commencing on Tuesday, at 11 A. M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such county and district medical societies as are recognized by *representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine Hospital Service of the United States."

"Each State, County, and District Medical Society, entitled to representation shall have the privilege of sending to the association one delegate for every ten of its regular resident members, one for every additional fraction of more than half that

Port Huron and the system will go into effect on May 1, which time the whole system, by operation of several St. Boards of Health will go into effect. He suggested that the health authorities of Toledo and Cleveland be invited to join this movement. He stated that at the meeting of the Sanitary Council of the Mississippi Valley at Cairo, Ill., April 19, the subject would be considered, and that it was desirable that the board be represented at that meeting. By vote of the board Dr. Baker was requested to represent the board at that meeting. Dr. Oldright spoke of the inspection of immigrants at Toronto and of the importance of notification to other boards of danger to be feared from immigrants. He also said any movement made by this board would meet with hearty coöperation by the Ontario Board. He said the work done by this board for the restriction of scarlet fever and diphtheria was fully as important as that for the restriction of small-pox.

The following motion was carried:

That the secretary be instructed to correspond with the health authorities of the Dominion of Canada and the several provinces thereof, and of provincial and municipal boards of health where they exist, asking their coöperation in the proposed immigrant inspection service.

Dr. Hazlewood read a proposed document giving best household antidotes to be used in case of poisoning, while waiting for a physician, or when one is not to be had. It was accepted and the committee authorized to modify it before publication in the annual report.

Dr. Hazlewood, Committee on Poisons, etc., presented a letter from Dr. Gordon, of Swartz Creek, relative to lead-poisoning by use of a feeding-bottle (which was exhibited to the board) in which the sinker keeping the supply pipe in the milk, was of lead, and so arranged that all the milk had to pass over it before entering the infant's mouth. The secretary was requested to notify the manufacturer of the pernicious character of the bottle, and the report was accepted and ordered published in the annual report.

Circular 35, revised, relating to the duties of health officers

was presented, adopted and twenty thousand copies ordered printed.

Dr. Kellogg, as special committee to prepare a circular on criminal abortion, made a report and read a proposed circular. The report was accepted, the committee continued, and the subject of issuing the circular laid over.

Dr. Kellogg was requested to represent the board at the meeting of the American Medical Association at St. Paul.

The next meeting of the board will be on Tuesday, July 11, 1882.

ARTICLE XI.

ALUMNI ASSOCIATION OF THE CHICAGO MEDICAL COLLEGE.

The annual meeting of the Alumni Association of the Chicago Medical College took place Tuesday, March 28, at 2 P. M. After an address by the President, Dr. D. A. K. Steele, and the Necrologist's report, by Dr. F. E. Waxham, the following prizes were distributed:

Senn prize, for best anatomical preparation, by a student of Chicago Medical College, one volume Surgery. Taken by E. Wing, M. D.

Prize for highest average scholarship for three years in Chicago Medical College. Taken by W. E. Morgan. E. Wing and E. L. Hollister followed closely on the college list.

Edwards' prize, for best scholarship in second year class, one set Wood's Library. Taken by N. S. Davis, Jr.

Alumni prize essay, for best Thesis. Taken by M. P. Hatfield, M. D. Subject: Prophylaxis and Treatment of Dyspepsia of Infants.

After music, the society went into executive session.. The following list of officers was elected:

President—M. P. Hatfield, of Chicago.

First Vice President—A. J. Smith, of Indiana.

Second Vice President—Charles Goddard, of Illinois.

Necrologist—F. E. Waxham, of Chicago.

Secretary and Treasurer—H. T. Byford, of Chicago.

number; *provided*, however, that the number of delegates for any particular State, territory, county, city, or town, shall not exceed the ratio of one in ten of the resident physicians who have signed the Code of Ethics of the Association."

Secretaries of medical societies as above designated are earnestly requested to forward, *at once*, lists of their delegates.

SECTIONS.

"The chairmen of the several sections shall prepare and read in the general sessions of the association, papers on the advances and discoveries of the past year in the branches of science included in their respective sections. * * *"—By-Laws, Art. II., Sec. 4.

Practice of Medicine, Materia Medica, and Physiology—Dr. J. A. Octerloney, Louisville, Ky., chairman; Dr. D. J. Roberts, Nashville, Tenn., secretary.

Obstetrics and Diseases of Women and Children—Dr. H. O. Marcy, Boston, Mass., chairman; Dr. C. V. Mottram, Lawrence, Kan., secretary.

Surgery and Anatomy—Dr. ——— ———, chairman; Dr. W. A. Byrd, Quincy, Ill., secretary.

State Medicine—Dr. A. L. Gihon, U. S. Navy, chairman; Dr. J. H. Sears, Waco, Texas, secretary.

Opthalmology, Otology, and Laryngology—Dr. —— ———, chairman; Dr. J. Solis Cohen, Philadelphia, secretary.

Diseases of Children—Dr. S. C. Busey, Washington, D. C., chairman; Dr. William Lee, Baltimore, Md., secretary.

Dentistry—Dr. D. H. Goodwillie, New York City, chairman; Dr. T. W. Brophy, Illinois, secretary.

A member desiring to read a paper before any section should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the chairman of the Committee of Arrangements at least one month before the meeting.—By-Laws.

Committee of Arrangements—Dr. A. J. Stone, St. Paul, Minn., chairman.

Amendments to the By-Laws—Offered by Dr. D. H. Goodwillie: Art. II., Sec. 8. Permanent members. Strike out the words "but without the right of voting."

Offered by Dr. J. H. Packard: Regulation II., part I., to read "as permanent members or members by application."

Regulation VI, line 4. Strike out 5 and insert 10. Second paragraph, lines 4 and 5, strike out all after "publication" to and including "association," and insert "publication."

Regulation IX. Add new paragraph: "Members by application shall consist of such members of State and county societies, in good standing, as shall make application in writing for admission. They shall simply have the right to receive the JOURNAL on the same terms as other members."

Regulation IV, paragraph 6. Strike out all from "see," in line 7, to "and" in line 9.

Regulation V, paragraph 3. After "published" insert "in such manner as the association may direct."

WILLIAM B. ATKINSON, M. D.,
Permanent Secretary.

ARTICLE X.

MICHIGAN STATE BOARD OF HEALTH.

Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER:

The regular quarterly meeting of this Board was held at Greenville, Michigan, on April 11, 1882, in connection with the Sanitary Convention held at the same time and place. The following members were present: Rev. D. C. Jacokes, of Pontiac; J. H. Kellogg, M. D., of Battle Creek; Arthur Hazlewood, M. D., of Grand Rapids; John Avery, M. D., of Greenville; Henry B. Baker, M. D., of Lansing, secretary. William Oldright, M. D., chairman, and J. J. Cassiday, M. D., members of the newly appointed Provincial Board of Health of Ontario, were present, and were invited to take seats in the meeting. In the absence of the president of the board, Dr. Jacokes presided.

The secretary presented the subject of inspection of immigrants, and stated that the National Board of Health had granted the request of this board for an inspection service at

Dr. Roswell Park moved that the resolution of last year concerning the prize essay be continued. His motion was carried. Following is the resolution:

Resolved, That the Chicago Medical College Alumni Association set aside the sum of $50 as a prize for the best essay on either one of the subjects to be selected by a committee of three. Such essay must be of sufficient merit, preference being given to original work and observation. Essays are to be handed to the secretary of the association before March 1, 1883, accompanied by a sealed envelope containing some device or motto similar to the one on the manuscript. All competitors shall be graduates, and have paid the annual dues. Award will be made by the Permanent Committee of Prizes—Drs. N. S. Davis, H. A. Johnson and E. O. F. Roler.

ADVANCING THE STANDARD.—There is no doubting the fact that the standard of qualifications for graduation in the medical schools of this city (New York), has materially advanced within the past few years. The system of examination is more rigid than at any time heretofore, and great pains are taken to prevent the graduation of unqualified persons. Written examinations are the rule; the questions given are selected with remarkable care, and a given standard is strictly enforced by a direct vote of the faculty on the papers of each candidate.—MED. REC.

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VIENNA, AHRIL 2, 1882.

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urine is almost black, but contains no iodine salts." Now, inasmuch as Mosetig, who does not use carbolic acid, always finds iodine in the *first* urine after an iodoform dressing; and inasmuch as carbolic acid is known to cause irritation, even inflammation of the kidneys, Mosetig is inclined to ascribe the retention of the iodine in the blood, and hence the intoxication, to the use of carbolic acid. He urges, therefore, the exclusive use of the one or the other antiseptic.

Winiwarter, in Liège, a former assistant of Billroth, has recently appeared among the champions of iodoform. He has secured all of the good and none of the bad results ascribed to the dressing, having never seen a case of intoxication. He irrigates the wound with carbolized water, and usually drains. He paints superficial wounds with a solution of iodoform in collodion.

In another of the large surgical clinics in Vienna (Prof. Dittel's) iodoform has been the staple dressing for the past year, without having caused any decided symptoms of intoxication.

Reports of pylorus resection appear not infrequently in the journals. Nicolaysen recently made one—death in twelve hours from collapse. Lauenstein, in Hamburg, recently experienced a hitherto unknown complication of this operation. The omentum was attached over almost the entire posterior surface of the stomach, and had to be largely separated from this organ, with ligature of its vessels. At the autopsy, several days later, there was found gangrene of the transverse colon. Lauenstein is inclined to assume a relation of cause and effect between the extensive detachment of omentum and the gangrene.

Rydygier, who made the first pylorus resection for cancer, recently made the first similar operation for stricture of the pylorus, with extensive dilatation of the stomach, following an obstinate gastric ulcer. The excised pylorus permitted the passage only of a number nine catheter. Patient's temperature never exceeded 39.3 C., and she was discharged cured six weeks after the operation. *Volkmann's Journal* says this is the first, "and it is to be hoped the last" performance of the operation for this pathological condition.

The recent discussion in the Berlin Medical Society of the results of nerve-stretching in general, but particularly of sciatic

stretching in cases of tabes dorsalis, has drawn general attention to the subject. Some months ago, Benedikt, of Vienna, published some startling statements as the results of his experience in twenty-five cases. Among them was the following: A classical case of tabes, patient being scarcely able to hobble with the support of two sticks. The girdle sensation, rigidity of pupils, constipation, paralysis of bladder, impotence, absence of patellar reflex, paraesthesia, were the prominent symptoms. The right sciatic was severely stretched. Two weeks later patient walked almost without staggering, with closed eyes and without support of any sort. At the end of two months after the operation, the above mentioned symptoms (except abnormality of pupils and of patellar reflex) had almost or entirely disappeared, and the patient walked a mile easily.

Some months later he entered Bamberger's wards suffering from endo- and pericarditis. Here the absence of essential spinal symptoms was determined—even the patella reflex was now present. The autopsy revealed gray degeneration of the posterior columns throughout the medulla. Benedikt obtained some pieces of the spinal cord, and announced that there were evidences of regeneration of the diseased nerve-fibers.

This communication was received with general incredulity; in some quarters even with ridicule. It seems, however, to have secured at least one important result, namely, the discussion of the subject by competent men.

Schultze, of Heidelberg, published a case of undoubted tabes dorsalis, in which all symptoms except slight paresis of the bladder and the absence of the tendon reflexes disappeared during treatment by Erb with the continued current. This improvement continued unimpaired until death, several years later, from an intercurrent affection. The autopsy showed the usual degeneration in the posterior columns.

This and similar cases prove the possibility of a clinical recovery from this affection, perhaps, as Senator suggested in the Berlin society, from a vicarious assumption by the gray matter of the duties of the posterior columns.

A most important contribution to the subject is Langenbech's report on 100 operations, mostly stretching of the sciatic and

crural nerves in cases of tabes. He observes that inasmuch as tabetic patients lose ground by keeping the recumbent posture, old, feeble, and fat persons are, for this, among many other reasons, less eligible for the operation. His experience does not confirm the rather natural *a priori* assumption that the chances of success are inversely proportioned to the stage of the disease; he has had most satisfactory results in some very advanced, and has utterly failed to improve in some very early cases. He frankly states that in the majority of cases he has seen either no benefit whatever or a merely temporary improvement follow the operation. Yet in many—some of which he reports minutely—there was a very marked and permanent improvement in all the troublesome symptoms, amounting in several cases to a practical cure.

At first he stretched with but little force and had good results; but becoming bolder, he used considerable force; in these cases he found that although immediate improvement occurred, yet in two to four months atrophy of the thigh muscles occurred. To avoid this, which he was inclined to attribute to tearing of small muscular branches, he in subsequent cases exposed the nerve at a part which gives off no branches—under the belly of the biceps. Since this change, he has never observed any considerable atrophy or paralysis of the muscles after the operation.

To avoid, so far as possible, the formation of cicatricial tissues around the nerve, the presence of which often caused unpleasant and painful after-effects, Langenbuch *cuts* all tissues down to the nerve itself. He then puts two carbolized sponges between the nerve and the fingers, to avoid local crushing. The tension must always be exerted on the central end only. He gives no directions as to the amount of force to be used, but warns against raising the patient, or even the leg, from the table by means of the nerve—a proceeding which Billroth in at least one case adopted. He insists upon antisepsis, by either carbolic acid or iodoform.

Upon rising from the bed after the immediate effects of the operation, the patient must begin systematic exercise.

Stretching of the crural nerve is more difficult, on account of its early division into branches; yet this operation has been, in

Langenbuch's hands, very serviceable in relieving the lightning pains of tabes. He advises that the division of the skin shall be limited to the integument of the abdomen, ending at Poupart's ligament.

In the discussion which followed the reading of this paper in the Berlin society, Westphal related his experience, taking a decidedly pessimistic position. Has observed some fifteen cases. In the first (1877) the result of stretching both crural nerves in a case of tabes was paralysis of both legs, bladder and rectum; severe bed-sores; transverse myelitis. In the other cases, the result was either *nil*, or a slight, transient diminution of pain. Thinks that these temporary improvements are due to purely psychical, not anatomical, processes. Westphal referred, further, to the celebrated original case of nerve-stretching by Nussbaum, for the relief of intercostal neuralgia. Some time after the publication of the asserted cure, Westphal learned, from a personal interview with the patient, that there was absolutely no improvement.

Bardeleben has performed the operation a number of times—once with complete recovery for a few weeks—subsequently relapse to worse than before. He performs the operation willingly, because "it's a good thing for the students to see."

Küster has observed two cases; one of temporary, one of permanent, improvement.

Senator is inclined to encourage the operation, although results to date have not been brilliant. Is convinced that recovery can and does occur, as in Erb's case (referred to above).

W. T. BELFIELD.

WE have just received from John H. Rauch, M. D., Secretary State Board of Health, a quantity of postal card records of vaccinations, which may be had on application at this office. We sincerely hope that the profession throughout the State will cooperate with the State Board of Health in their effort to have a complete record of vaccination.

Domestic Correspondence.

ARTICLE XIII.

MESSRS. EDITORS: In former letters, I believe, you have been made acquainted with the fact that the Massachusetts Medical Society, for purposes of local meetings and work, was long ago broken up into branch societies, according to counties. The main society meets but once yearly. The Boston branch is called the Suffolk District Society, and formerly met once per month. An effort was made last year to sustain fortnightly meetings. This did not work. The present secretary of the District Society, Dr. H. C. Haven, then proposed a division of the society into sections. Members might have the privilege of joining either or all of them. The sections thus far established are the Surgical and the Section for Clinical Medicine, Therapeutics and Pathology. Dr. Haven has pushed the matter with such vigor that the meetings of these two sections have become more interesting and active than the former meetings of the whole ever were.

The sections were to have met once in six weeks, but such is the interest already developed that the accumulated medical papers are too many for the number of meetings appointed. The order, therefore, has been changed, and the sections will meet oftener. The success of this arrangement simply shows that while men will not regularly attend meetings at which any medical topic is in order, they will closely follow up meetings at which they are sure to hear something directly in the line of their work. Both the surgical and clinical sections are well attended and extremely attractive. The general meetings of the District Society occur at regular intervals, but not so frequently

as formerly. These occasions are followed by an abundant collation, which, it must be confessed, is enjoyed by many who fail to appear at the sections. Does this happen to suggest to you that these men choose the meeting at which they also are sure to encounter something directly in the line of their thought?

I think Dr. Haven may not realize how earnestly his efforts in bringing about section work and increased activity are appreciated by the members of the sections. So far as my knowledge goes, this splitting of a local society into special divisions has never before been attempted in this State. The arrangement is far more enjoyable than the old plan for reasons which are so obvious as to require no mention.

During the past winter we have had such share of the small-pox epidemic as could find admission in the existence of the unlimited power of our Board of Health. During the year 1881 eight deaths occurred in Boston from this disease. Since the 1st of January there have been a few additional deaths. The desire for vaccination has been wide-spread. The number of persons vaccinated by the city physician has been large, and private physicians have all done the operation many times. During a few weeks of the early winter the people at large were considerably anxious in regard to what was believed to be imminent danger. This feeling, however, has subsided. In one of the suburbs we have an excellent small-pox hospital, capable of accommodating seventy-five patients. Far from being forbidding in its appearance, it resembles, in the approving language of a former patient, "a summer hotel." It has an inviting parlor, attractively furnished, and containing an organ and piano, convenient bath-rooms, and is exceedingly comfortable, especially in the rooms designed for private patients. The kitchen depart ment is well managed. During the winter the city physician has made daily visits. Free patients are as kindly treated as the private. But little medicine is given. Large quantities of milk are drank. Dieting and rest are the main treatment. But five or six patients have been under treatment at one time. The attractions and comforts of the place render it not only inviting, even to those who are obliged to leave luxurious homes, but better treatment is secured here than would be possible else-

where. In reading a very old book on inoculation, written during the last century, I came upon an account of a curious and amusing phillipic pronounced in 1722 by a London clergyman against the practice of inoculation. Partisan feeling ran very high at the time, and the redoubtable parson thundered "Against the sinful and dangerous practice of inoculation." He called inoculators "diabolical sorcerers, hellish *Venesici*, enemies of mankind." With the odd superstition so common in that day he denounced inoculation as "a very ancient art, first put in practice upon Job by the devil." "Thus we are to understand," says a sarcastic cotemporary, "that the devil was the first inoculator, and poor Job his first patient." The doughty parson further asserted that inoculation was "an anti-providential project which insulted religion and banished Providence out of the world." A magazine of the day, referring to the conceit of the witty minister, published the following couplet:

"We're told by one of the black robe,
The devil inoculated *Job*.
Suppose 'tis true, what he does tell,
Pray, neighbors, did not *Job do well?*"

The Chinese, according to this interesting book, inoculated in very ancient times, and perhaps still do, by taking three or four scabs from a small-pox patient, and placing them between a bit of musk, wrapped the whole in cotton wool. This they inserted within the nostril of the subject; into the left nostril, if a male; into the right nostril, if a female. A method which proved largely unsuccessful.

The Greeks superstiously inoculated the forehead, each arm and the breast, in order thus to secure the form of the cross. Many other curious facts are related. Inoculation undoubtedly proved a blessing to those upon whom it was practiced, but with as little doubt it is responsible for the endemic existence of the disease in Asia at the present day, especially in China, where the custom is still in force.

It is a noteworthy fact that while in Great Britain inoculation had barely secured a foothold, in Boston and other neighboring New England towns, Dr. Zabdiel Boylston, incited by the publication of the method by Cotton Mather, inoculated 280 persons between June, 1721, and the following January.

The report of the trustees of the Massachusetts General Hospital for 1881 includes the valuable statement that the public has contributed the needed sum of $100,000 for the erection and support of a Convalescent Home, a dependency of the hospital. The building, well arranged and picturesque, will be ready for occupancy this spring. It will add greatly to the curative resources of the hospital.

The trustees touch upon another matter which dire necessity has made very urgent, viz.: The need of a hospital for incurables. While every provision has been made for acute diseases and accidents, so soon as a patient proves incurable, he has no other refuge than the discomforts of his own home. Proper surroundings and good care, on the other hand, would make the remaining years of his life comparatively free from suffering. Probably no physician in Boston, who does charitable work, but has found himself unable to provide for incurable patients. This is a sad need, and the trustees of the Massachusetts Hospital have done wisely in calling for donations and legacies to be applied in establishing a department for this class of sufferers. The practice of exacting a nominal fee from all applicants (excepting the very poor) to the out-patient department, and which, as I wrote you twelve months ago, was under trial, was soon abandoned. It failed to accomplish good results, and really produced evil. In April last a person of experience was appointed to examine all applicants, in order to discover whether they were entitled to gratuitous service. Of 1,250 cases visited at given addresses, 545 were found undeserving of charitable aid. To a large number of these, however, the trustees think it would be unjust to apply the term "impostor." They feel that the aim of such investigations should be rather to prevent than detect improper applications, and very sensibly add that although the result may in some degree diminish the number of those annually treated, "it is well to remember that to judge of the success of an institution by the number of its patients, is to apply the easiest but not the most adequate test."

Another effort has just been made to open the doors of the Harvard Medical School to women. The basis of the endeavor was an oger of $60,000, the gift being conditioned upon the ad-

mission of women to the Medical Department of the University. If sufficient space remained, I would give you full details of this new attack. In a certain sense it was sprung upon the medical faculty. They were not prepared for it. But they did a heap of work in a very short space of time, and the result is that to-day the University Committee upon the Medical Education of Women presented its report to the overseers of the college. It was discussed for two hours, and then, by a dangerously close vote (13 to 12), it was decided that "in the opinion of this board it is not advisable for the University to give any assurance or hold ont any encouragement that it will undertake the medical education of women by Harvard College in its medical school." So mote it be.

BOSTON, APRIL, 1882. * *

ARTICLE XIV.

PAPAGO INDIAN AGENCY, FEB. 24, 1882.

MESSRS EDITORS:—I have just now returned from a visit to the Pima Indian Agency, and it may not be uninteresting to you to know something of them. They live on a Reserve on the Gila river, and are quite extensive farmers. Although they were primarily of the same nation as the Papagoes (my Indians) still they are different in a great many respects. There dress is quite summer-like in character, and they wear their hair long, and braided into small tails hanging down their backs. Their houses, or "kees," as they are called, are made of straw, with wooden frame work. There is a small door through which they crawl, and this furnishes the only entrance of air, or is the only means of ventilation. They have a curious door, made in the shape of a funnel, which admits the air, but does not allow its escape. I can hardly explain its philosophy. In these miserable hovels they live; eating, sleeping and sitting in the one room, for that is all they have.

The morals of these Indians, Pimas and Maricopas, are very loose. The Maricopas are fast dying out, being swept away by

the ravages of venereal disease. The Pimas are not so bad, but still the virtue of their women is not above reproach. They have at the Agency a well-organized police force, composed of the best Indians in the tribe, who arrest all turbulent, drunken, or otherwise unruly Indians. These are tried by the Agent, and sentenced to different punishments according to his judgment. The police are furnished with arms and uniforms by the United States.

At the Agency the Government has established a boarding-school for the Indians, and its success is well established. They can accommodate 750 pupils. Food and clothing are furnished the children while at school. I forgot to mention that the police are furnished weekly rations and paid $5.00 per month besides their arms and clothing.

The Pimas have many songs, which are as rare in sentiment as they are in music and tune. I will endeavor to preserve some of them and send them to you, as they are curiosities. They have many superstitions, and hold many things sacred. They think the tails of different animals and birds are efficacious in driving away certain diseases. They have, however, no medicine-men.

I remain yours sincerely,

W. G. COOK.

Tucson, Arizona Territory.

ARTICLE XV.

ILLINOIS STATE BOARD OF HEALTH,
SPRINGFIELD, Illinois, April 17, 1882.

MESSRS. EDITORS: Accompanying this, please find the schedules of questions used at the last annual examination of candidates for certificates of practice by the Illinois State Board of Health, (Chicago, April 13–15, 1882), and to which questions 80 per cent. of correct answers are required.

The numerous inquiries, both from within and without the State, as to the scope and character of these examinations indicate that the publication of the questions may be timely and useful.

It should be noted that, after the session of 1882–83, candidates will be also required to undergo an examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy. Very respectfully,

JOHN H. RAUCH, M. D., Secretary.

To the Editor Chicago Medical Journal and Examiner.

ILLINOIS STATE BOARD OF HEALTH, Chicago, April 13, 1882.

Examination in Anatomy—By W. A. Haskell, M. D. 1. Name the bones of the carpus. 2. With what bones does the sphenoid articulate? 3. Describe a vertebra. 4. Describe the ligaments of the hip joint. 5. Name and describe the pronator muscles of the forearm. 6. Give the relations of the femoral artery and vein. 7. Describe the thoracic duct. 8. Give the distribution of the median nerve. 9. What is Wharton's duct? 10. Describe the liver.

Examination in Surgery—By W. A. Haskell, M. D. 1. Define inflammation. 2. What is the difference between ulceration and mortification? Between caries and necrosis? 3. What is a tumor? 4. Give illustrations of a benign and of a malignant tumor. 5. Give the treatment of mammary abscess? 6. Explain the *modus operandi* of reduction of the iliac dislocation of the head of the femur, by manipulation. 7. Give the differential diagnosis of compression and concussion of the brain. 8. Give the differential diagnosis of inguinal hernia and hydrocele of the cord. 9. Give the diagnosis of morbus coxarius—(a) During the first stage before the occurrence of effusion. (b) During the stage of effusion—the capsule of the joint remaining entire. 10. Give the general treatment of fractures of the lower extremities.

Examination in Physiology—By John McLean, M. D. 1. What is the action of saliva in digestion, and what are its chemical constituents? 2. Describe the digestion of starch and of fats. 3. Give the source and use of animal heat. 4. How is gastric juice formed, and what is its composition? 5. Explain the secretion of bile, its composition and use. 6. Explain the physiology of sleep. 7. Describe the fœtal circulation. 8. What nerves are directly concerned in the act of respiration?

9. Describe the circulation of blood in the fœtal heart. 10. What causes the sounds of the heart?

Examination in the Practice of Medicine—By John McLean, M. D. 1. What are the symptoms of variola, and its treatment? 2. How would you diagnose variola from varicella? 3. Give etiology, pathology and treatment of cholera infantum. 4. What is hysteria, and its treatment? 5. Give etiology, pathology and treatment of epilepsy. 6. Give diagnosis and treatment of eczema squamosa. 7. Give pathology, causes and treatment of typho-malarial fever. 8. Give differential diagnosis of diphtheria, and its treatment. 9. Give symptoms and treatment of leucocythæmia. 10. Give symptoms and treatment of acute idiopathic erysipelas.

Examination in Materia Medica and Therapeutics—By J. H. Rauch, M. D. 1. Classify remedial agents, broadly, by their actions and uses. 2. Name some of the principal agents in each class. 3. Name the principal urino-genital remedies, and write five prescriptions, embracing a different one in each. Give the indications intended to be met by each prescription. 4. What alteratives, emetics and cathartics are indigenous in Illinois? 5. Give the sources, active principles, two or more officinal preparations, and uses of (a) camphor; (b) ergot; (c) nux vomica; (d) opium; (e) physostigma. 6. Describe the therapeutic uses of the bromides, and write prescriptions for each of three of them, with indications. 7. Mention some of the most important recent additions to the materia medica, with their uses. 8. Give the therapeutic uses and applications of *aqua fluvialis* or *fontana*. 9. Mention the different officinal preparations of antimony. 10. Give the doses of (a) ammonii phosphas; (b) iodoformum; (c) strychniæ sulphas; (d) acidum boracicum; (e) extr. belladonnæ alc.; (f) atropiæ sulphas; (g) resina podophylli; (h) tr. aconita rad.; (i) extr. gelsemii fld.; (k) acidum hydrocyanicum dilutum.

Examination in Hygiene—By J. H. Rauch, M. D. 1. Give the prophylaxis of small-pox, and the measures to prevent its spread on the appearance of the first case. 2. To what extent should vaccination be made compulsory in the United States, and why? 3. What is "ground-water," and what is its agency

on health? 4. Describe the principal disinfectants, their applications and modes of use. 5. Formulate a set of rules for school hygiene. 6. What is "sewer gas," and what evils are ascribed to it? 7. Give the differential diagnosis, for sanitary purposes, of (a) scarlatina; (b) rubeola; (c) varicella; (d) variola; (e) febris flava; (f) cholera Asiatica; (g) trichiniasis. 8. Describe vaccination and its progress through the different stages; the effects ascribed to it; its complications; and the ages at, or conditions under, which it should be repeated. 9. What are the chief causes of an excessive mortality, and their remedies? 10. Describe Pasteur's recent experiments.

Examination in Medical Jurisprudence—By J. H. Rauch, M. D. 1. At what age is the fœtus viable, and what are the signs and indications of such age? 2. What precautions—other than for the safety of the subject—would you observe in the exhibition of an anæsthetic, and why? 3. How would you determine whether lesions, injuries or discolorations, found on a cadaver, were produced before or after death? 4. What is the course of procedure in the commitment of persons to an insane asylum in this State? 5. Has the registration of vital statistics any legal bearing, and, if so, what?

Examination in General Pathology—By R. Ludlam, M. D. 1. Give a definition of disease. 2. What is the difference between a predisposing and an exciting cause of disease? 3. Name the means employed in physical diagnosis. 4. What is meant by "a qualified prognosis?" 5. What forms of inflammation are reparative? 6. How would you recognize the cancerous cachexia? 7. What diseases are incident to the hæmorrhagic diathesis? 8. In what diseases do we often find albumen in the urine? 9. What form of erysipelas is inoculable? 10. Why do attacks of pelvic and portal congestion frequently alternate with each other?

Examination in Gynæcology—By R. Ludlam, M. D. 1. What are the uses of the uterine sound? 2. What diseases are accompanied by an increased depth of the womb? 3. In constipation, with or without hæmorrhoids, which ovary is most frequently inflamed, and why? 4. What intra-pelvic inflammation is most frequently rheumatic? 5. What diseases are fol-

lowed by fixity, or anchorage of the uterus? 6. Name the most frequent cases of menorrhagia in women who have had one or more children. 7. Define a menstrual headache, and give the treatment for it. 8. What are the sources of puerperal traumatism, and what are the most serious lesions that may result from it? 9. In a lying-in patient, how would you distinguish a physiological from a pathological chill? 10. When are mammary abscesses salutary?

Examination in Obstetrics—By A. L. Clark, M. D. 1. Define obstetrics. 2. How can you differentiate pregnancy from ovarian tumor or cyst? 3. At what period or stage of labor is the greatest danger to the mother, and what is the danger? 4. Give the contra-indications to the use of ergot. 5. Under what circumstances should version be performed? 6. Will the mother's blood pass out from the umbilical cord unless this be tied before being cut? 7. Give diagnosis and treatment of puerperal eclampsia. 8. Give diagnosis and treatment of hydrocephalus of the infant during parturition. 9. What is the shape of the posterior fontanel? 10. Give the treatment for prolapse of the funis umbilicalis.

Examination in Chemistry—By A. L. Clark, M. D. 1. What is meant by a qualitative, and what by a quantitative, analysis? 2. How would you test water for organic impurities? 3. Is hard or soft water most liable to contamination by passage through or standing in lead pipes, and why? 4. How would you test a suspected water for salts of lead in solution? 5. Give the names and symbols for ten elementary substances? 6. Name substances with which it is incompatible to unite KI in prescriptions. 7. What chemical elements are contained in pure grape sugar not found in cane sugar? 8. What liquid is the most universal solvent? 9. What is the difference between analysis and synthesis? 10. What precautions are necessary in handling chloroform in the presence of flame or fire?

ARTICLE XVI.

ST. LOUIS, Mo., April 1, 1882,
HALL OF THE ST. LOUIS MEDICAL SOCIETY.

The following resolutions were adopted by the St. Louis Medical Society, April 1, 1882:

Resolved, That the St. Louis Medical Society, while it desires to accord the broadest freedom to medical investigation, and recognizes fully the right of individuals to form and hold private opinions, hereby declares that it regards with disfavor any steps taken to lessen or obliterate the distinctions and safeguards between an honorable practice of medicine founded upon science and that founded upon any of the current delusions and exclusive medical systems of the day.

Resolved, That a copy of this resolution be forwarded by the Corresponding Secretary to the New York State Medical Society, to the Permanent Secretary of the American Medical Association and to several specified medical journals.

WM. DICKINSON, M. D., President.

A. H. OHMANN-DUMESNIL, M. D., Recording Secretary.

ARTICLE XVII.

EDITORS MEDICAL JOURNAL AND EXAMINER: Will you kindly publish these questions in the next issue of your journal, and, if possible, call attention to them editorially? Sincerely yours,

H. H. KANE.

INSANITY FROM DRUGS.

Members of the medical profession, especially those having had dealings with the insane, are earnestly requested to answer the following questions, fully, yet concisely. The subject is one of so much importance, medico-legally and otherwise, and so very little is to be found upon it in works on insanity, that it merits the attention asked for it.

1. Have you ever seen any cases of insanity, temporary or permanent, or any deviation from the normal mental or moral state that could be traced directly to the use of a single large dose, or the continued use of *opium, or any of its preparations or alkaloids ?*

2. Of what type was such insanity ? Give symptoms.

3. State patient's age, sex, civil condition and occupation.

4. What was its duration and result ?

5. State color of patient's hair, eyes and complexion.

6. Was there any hereditary tendency to insanity, or any history of alcholism, grave nervous disease or any drug habit in the patient's ancestors ?

7. What amount of the drug was used, and for how long a time ?

8. What line of treatment was pursued ?

9. Please answer the same questions regarding the use of *chloral hydrate.*

10. Please answer the same questions regarding the use of *bromide of potassium*, or any other drugs.

Stamps will invariably be returned. In all cases so requested, communications will be considered strictly confidential. Reprints of the article, embodying the results of such statistics, will be sent to each correspondent. Address,

DR. H. H. KANE,
DeQuincy Home, Fort Washington, New York City.

PROFS. D. W. GRAHAM, S. H. Stevenson and M. J. Mergler, of the Woman's Medical College, have been added to the staff of Cook County Hospital. This action of the County Commissioners is to be commended in recognition of the growing usefulness of the Woman's College, as it ranks but second among the medical colleges of Chicago in the number of students sent to the County hospital clinics.

Original Translations.

ARTICLE XVIII.

DR. JULIUS KRATTER ON THE ELIMINATION OF STRYCHNIA THROUGH THE URINE. Translated from the German by F. H. GENTSCH, M.D., Chicago.

Many of the most important alkaloids, whether taken by mouth or hypodermic injection, are very radidly absorbed and taken into the circulation, and without change again expelled by the urine. With the most of them the elimination follows very rapidly, and can often be demonstrated in the urine in a very short time after being taken into the system.

This is known to a certainty of the volatile alkaloids conium and nicotine, and a list of the fixed vegetable basis. Dragendorf demonstrated by experiments upon animals, the rapid elimination of the unaltered veratrim and aconite.

That atrofine is eliminated through the urine is well-known and has been demonstrated upon the human subject as early as 1810. In three cases of poison by stramonium seeds, Allen found atropia in the urine. Cohn and Körner record the same in a case of atropia poison after analysis by Harley. According to Menot and Schmidt, the elimination by the urine is soon completed, as in the first of the above cases, after three hours, and in the latter, after ten hours, no more atrofine was found in the urine. This property of atrofine was frequently demonstrated by Dragendorff, and the same was found true of hyosciamin. So also of the much used therapeutic agent morphia, is it is well-known, that it leaves the body after a short interval of time after its ingestion, through the urine. The older investigators, such as Lassagne, Olivier and Mooge, and finally Orfila

and numerous later researches by Taylor, Bauchardat, Lefort, Kautzmann, Dragendorff, and others, confirmed the results of the older investigators. I, myself, found it in the urine eight or ten hours after death by suicide, whilst at the same time I found no trace of it in the stomach. Lewenstein made good use of these well-known facts for the detection of secret morphine eaters.

Not so unanimous, however, are the statements in regard to strychnia. That it is absorbed and is present in the blood was demonstrated as early as 1827 by Verniere. He took the blood of animals poisoned by the nux vomica bean, and poisoned others with it. The presence of strychnia in the blood and viscera was first demonstrated by Palmer in 1855. Taylor was unable to show the presence of strychnia in the corpse of Jno. Pearson's cook, the victim of Dr. Palmer. During the defense, the chemist, Herepath, testified that it was possible to detect 1-50,000 part of a grain of strychnia in the viscera. It was first clearly shown in the blood of the human subject by Oystow, later by M. Adam in the blood, muscles and urine, and by Auder seen in the liver. It seems thus to be practically demonstrated that we may accept the same law for the deportment of strychnia in the human organism in this regard as for morphine and the other alkaloids.

From the experiments of Cloötten and Dragendorff upon the lower animals, we learn:

1st. That strychnia, whether given by the stomach or subcutaneously, is rapidly absorbed.

2nd. That it finds its way into the blood unchanged, and is eliminated again unchanged. Unlike morphia, however, strychnia is not so rapidly eliminated, but slowly, and does not begin to pass off until several days after its ingestion, but is retained in the liver, so that in acute cases of poisoning by strychnia the urine is to be left out of consideration.

In all chronic cases of strychnia poison the poison is cast off from the body through the urine, but it must be remembered that the eliminating begins later and is carried on very slowly. This theory is propounded also in the various text-books on texicology. F. A. Falk, text-book on Practical Texicology Stutt-

gart, 1880, and Dragendorff on Poisons, St. Petersburg, 1876, may be recognized as understood and well authenticated, but we find in the literature records of experiments, which do not agree with it. M. Adam found in one case strychnia in the urine in nine minutes after the poison had been taken. A. O. Schulzen (Aschines, Auot and Phyiol, 1864,) and Rodgers found it in the urine in acute case of strychnia poisoning in the human subject. In one case, after seven hours chloroform inhalation, with recovery, Hamilton found it in the urine. Dragendorff, in company with Weyrich, found it in the urine after two days.

These contradictory statements in regard to the deportment of strychnia in the human organism, led me in a case of suicide by strychnia poison, in November, 1879, to give particular attention to the examination of the urine. Death followed just one hour and a half after the taking of the poison; 200 c.c. of urine of acid reaction was drawn, per catheter, from the bladder, in which I found, by analysis, in the laboratory of Prof. Schonenstein, unmistakable evidence of the presence of strychnia. In this case the poison was taken in considerable quantities in the solid form, as the undissolved strychnia was still found in the stomach on post mortem examination.

Here, then, we find a case of strychnia poison in the human subject, all the details and features of which are well-known, where, after the short period of one hour and thirty minutes the urine was found to contain the poison, a result at direct variance with the Masing-Dragendorff theory, which is based upon the results of exporiments upon the lower animals alone.

DR. JULIUS KRATTER,
Docent of Hygiene, University of Gratz.

Miner Medizinische Wochensctrift, Feb. 25, 1882.

DEAFNESS IN CHILDREN.—Dr. Weill, of Stuttgart, found as a result of his examination of 4,500 school children, that thirty per cent. of them have imperfect hearing on one side, and that the defective hearing increases with age.—*Vienna Neue Freie Presse.*

Reviews and Book Notices.

ARTICLE XIX.—THE APPLIED ANATOMY OF THE NERVOUS SYSTEM; being a Study of this Portion of the Human Body from a Standpoint of its General Interest and Practical Utility, designed for use as a text-book and a work of reference, by AMBROSE L. RANNEY, A.M., M.D. With numerous illustrations. New York: D. Appleton & Co. 1881.

The author has evidently garnered the best points of other observers in this line. His research has been extensive, and his application of anatomical facts to account for clinical results is plausible. However, the field he occupies is still debatable land, and until we have a more definite knowledge of the anatomy and physiology of the brain and nervous system, such books as this must be more speculative than authoritative.

Dr. Ranney discusses in turn the anatomy of the brain, cerebrum, corpus strictum and optic thalamus, corpora quadrigermina, cerebellum and medulla oblongata. The surgical bearings of cerebral topography are given, followed by the clinical subdivisions of the brain, physiology and practical clinical deductions.

Part II discusses the cranial nerves; part III the spinal cord, part IV the spinal nerves. Parts II and III contain many suggestions of value, although the author often has unfortunately obscured his meaning by expressing his thoughts in sentences of complex and faulty construction.

The mechanical part of the book is very good, and on the whole, it is a valuable addition to the ever increasing list of medical works. J. S. R.

Selections.

INFANT FEEDING AND INFANT FOODS.

MR. VICE-PRESIDENT, LADIES AND GENTLEMEN, MEMBERS AND DELEGATES OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK: I hold in my hand a report of the committee appointed to co-operate with the New York Society for the Prevention of Cruelty to Children, "in all things pertaining to the physical and moral safety of infants and children." The report I refer to was read in last year's meeting, and has been widely distributed by the above-named society. One of the measures contemplated and advised in it was, that there should be a place or places in large cities, where the infants and young children of the poor might be supplied, at cost, with the simple though sufficient articles of food. These simple and sufficient articles of food were milk, barley, oat-meal, and, for those no longer infants proper, eggs. Their value as infant food for those who were without breast-milk, was taken for granted, and considered almost in the light of an axiom. To make it so has been one of the duties of my life. Truth, however, is frequently suspected because of its very simplicity, and often do we see complicated and roundabout means and measures resorted to in preference to plain and direct ones. Now, what I have to say may, in part, appear very common-place and trifling, because of its application to common-place things and interests. But questions are involved which it has taken, and will still take much time and labor to solve. To render the results hitherto obtained available, the normal feeding of the infants possible, and to protect them from the injuries inflicted by ill-directed love, ignorance, and the evil-devised plans and frauds of what is called commerce and industry, will be the object of the brief remarks which I shall have the honor to make

before you in regard to the dangers to which our infants are constantly exposed.

Mortality amongst infants is very great. In Europe, out of one hundred born alive, eighteen die before they reach the end of their first year. Out of one hundred who die at all ages and of all diseases, in New York City, twenty-eight are less than a year old. The causes of these deaths vary; it is a characteristic fact, however, that of all those taking place in infants under a year, from 40 to 53 per cent. are the results of diseases of the organs of digestion.

Thus, the attention of the physician called to see a sick child is mostly claimed by the alimentary canal. His care and that of the mother or attendant is therefore due to preventive measures mostly. The best preventive measure, and sometimes it proves curative, is the breast-milk of mother or wet-nurse. That is an axiom, an indisputable law of nature, as long as the circumstances of the case are favorable. In view of the great mortality in the first two months, breast-milk is the one and indispensible food for those under two months. A mother who refuses to nurse *at least that time* for other than reasons of health or life, is an accomplice in causing, perhaps even the only cause of, the death of her offspring. It is true that a baby may be taken sick with intestinal disease in spite of being nursed at the breast, for there are many causes of disease; it may, however, occur that babies are taken sick because of being at the breast. And it is those cases that both mothers and physicians ought to be well acquainted with. Sometimes it is not the breast-milk which is at fault, in the beginning, but the faulty use it is put to. Many babies suffer intensely because they are not limited to intervals of from 2 to 4 or 5 hours, as required by either age or constitution. In their cases, by too frequent feeding, both the milk of the mother and the digestion of the infant, are impaired. Here regularity is the sole indication. Sometimes, though fortunately in few cases only, there appears to exist an idiosyncrosy not explained, on the part of the baby who cannot thrive on the milk of the mother, and may do so after a change of food. In many cases, however, there are demonstrable dangers in the very breast-milk of either mother or nurse; there may be an undue percentage of

fat, or of cheese, or of salts, or of sugar, or even accidental admixtures. These may occur in the secreting organ (thus blood may be found in the milk) or be traceable to the circulating blood of the whole system; of the latter they may be the very constituents, or foreign bodies floating in it. They can be classed as either morbid dispositions or as actual admixtures. Women suffering from constitutional syphilis, chronic consumption, or anæmia, extensive rachitis, severe nervous derangement, hysterical or other, those suffering from care or hard work, and those who are compelled to take a great deal of medicine, will serve their babies best by not nursing them at all.

In regard to the influence of the medicines, the opinions have been divided. It was claimed that milk being a secretion of the gland, and not a transudation from the blood, would not contain foreign material to any great extent. That is true so far as an absolutely healthy woman and normal milk are concerned. But the first period of lactation yields colostrum, not normal milk, and very often the latter is changing into a colostral condition, such as it was soon after birth, containing different-shaped fat globules, more sugar, soluble albumen, in fact, real blood serum. This may take place in every case of impaired health. And the more serum of blood is contained in any milk, the easier is the admixture of soluble substances circulating in the blood. Such substances are ethereal oils, coloring matter, iron, iodide of potassium, arsenic, zinc, mercury, salines, bismuth, lead, antimony, nitrate of potassa, magnesia, all of which have been frequently found in the milk, and frequently missed. They will be missed the more frequently the healthier the woman and its mammary secretion. But, as I formulated the subject some years ago, milk secreted from an insufficient mamma, by a woman not in full health and vigor, by an old woman, by a very young woman, by an anæmic woman, by a convalescent woman, who has consumed a large portion of her albumen, be it circulating or tissue albumen, by a neurotic woman with frequent disturbances of the circulation—milk, in fact, which is not the normal transformation of the elements of the mammary glands, but consists of more or less transuded serum, is apt to be impregnated with elements circulating in the blood. The indications on the one hand for permis-

sion to nurse, on the other, for the administration of medicines to a nursing woman, require, therefore, a greater strictness than is usually conceded. At all events, the good results obtained in many cases of ailment on the part of the infant, by artificial feeding, in preference to nursing, are better than accidental.

Those infants who are thus deprived of breast-milk, or never had it, or have an insufficient supply of it, require artificial feeding. The material resorted to ought to be as much like mother's milk as possible; and naturally, when human milk cannot be had, animal milks are selected. Amongst them, only two are available to any extent, that of the goat and of the cow. If there be any objection to either, it is principally valid in regard to the former. For the chemical incongruities and other difficulties, to which I shall briefly allude in regard to cow's milk, are even more pronounced in the case of goat's milk.

My remarks of this evening I expect to be of a practical nature throughout, and brief. Thus I shall not try to go into chemical or physiological questions beyond the time allotted or the opportunity afforded. Therefore, I shall allude to but two points which it is interesting to appreciate, in order to understand why it is that cow's milk, as a sufficient substitute for mother's milk, must necessarily be a failure.

Human milk and cow's milk differ mainly in that the percentages, and probably also the properties, of fat and of caseine contained in them, differ widely. The percentage of fat in cow's milk is larger than in human milk, and, on close observation, we shall learn that woman's milk contains as much fat as the young digestive organ can tolerate. From what we know of the diastatic power of the infant pancreatic gland, we must conclude that its property of digesting fat is but slimly developed soon after birth; and daily observation proves that such is the case. When you examine chemically the normal alvine digestions of the infant, well mixed, uniform, and yellow, you will discover not only fat acids, but free fat to the extent of about 12 per cent. Some more fat leaves the intestines in a saponified condition. Many of the passages which have been believed to contain caseine in excess, because of their white color, were found to contain large quantities of fat. And all this happens when the normal infant

is fed exclusively on normal breast-milk. Now if much fat is not required nor absorbed under normal circumstances, if fat acids form so easily when the digestion is apparently normal, with the constant tendency of deranging digestion; if we know, as we do, that even normal breast-milk contains more fat than the infant has any use for, we must admit that in artificial feeding, with cow's milk or other material, we are in greater danger from giving too much fat than too little. Good milk has been called that which contains most fat, say from four to five per cent. The more cow's milk deserves the title of being good—that is, fat—*the* greater is the danger arising from giving it to infants without considerable modification. This result authors appear to gradually appreciate. When Forster fed a baby of four months with cow's milk and rice decoction in the proportion of 1 to 4, all the albuminous substances and sugar of this mixture had disappeared when the fæces came to be examined. Thus they were entirely digested, but of the ashes 34, and of the fat 30 to 40 per cent. were found unchanged. This experiment proves, in the opinion of Prof. Bollinger, whom I rejoice in quoting, that a milk less rich in fat is more adapted to serve as infant food than one with a large percentage of fat; and further, that cows whose milk is destined to be used as infant food, ought to be fed so as to reduce rather than increase the amount of fat contained in it. A good authority, Prof. Feser, makes the distinct statement that the milk he examined on the Alps of Switzerland, and which he prefers greatly as children's food, contained less fat than that from the cows in the neighborhood of a large city. If that be so, and it is so, I recommend as a matter of practice that the morning milk, with its lesser percentage of fat (butter), should be given in preference to evening milk, if any at all.

Now, if the excess of fat be one of the causes why cow's milk should not be employed as infant food, why not remove it or diminish its percentage? Easily said, not easily done; for when milk is allowed to stand, and the cream to rise, the milk at the same time changes its reaction. Instead of being alkaline or neutral, it becomes acid, and acid milk is a danger which an infant must be protected from. Some years ago, Lefeldt and Delaval invented each an apparatus which, by rapid centrifugal motion,

separates the cream from the milk very thoroughly. Such an apparatus may, perhaps, be found useful in reducing the normal fat of cow's milk to an acceptable standard in the future. For the present, however, I know of no proceeding which accomplishes the end in view; and, while submitting to the unavoidable, I must protest against the avoidable occurrence which is reported to have taken place in a court of justice but lately. In one of the skim-milk police cases—and unfortunately there are less "cases" than adulterations—the expert for the defense, a well-known chemist, tried to clear his client by proving him a public benefactor, inasmuch as Dr. Jacobi objected to an excess of butter in the milk used for children.

Caseine is represented in cow's milk in a larger percentage than in human milk. To reduce its relative quantity, compared with the rest of the solid constituents, is possible by the increase of these only. There is no method by which its absolute quantity in a given amount of milk could be diminished, except such as would render the remaining part of the milk unfit for use. This diminution, moreover, would have to be a very thorough one, for a mixture containing more than 1 per cent. of caseine has been found to be indigestible by Hammarsten, and by Biedert. But these are not the only objections to cow's milk caseine. Not only is its percentage in the milk too great, its chemical and physical properties differ greatly from that contained in human milk. Mineral, acetic, and tartaric acids, epsom salts, phosphate of lime, form a dense and hard cogulation with the caseine of cow's milk, while human milk congulates in loose and small flakes only, under the same circumstances. Cow's milk, when introduced into the infant stomach, forms hard curds; if the organ be strong, or the infant liable to vomit easily, as most of them are, thick massive pieces of cheese are thrown up, and relief will follow. If no vomiting occur, these hard masses are propelled into the intestinal tract, where sometimes they give rise to obstruction. Sometimes, however, they irritate the canal to such an extent, that diarrhœa is the result. In both cases lumpy cheese is the main constituent of the evacuations. In every case of infant diarrhœa, the examination of the passages might be made; in many cases the appearances will be found as described, and no

case of the kind will terminate favorably unless the food be changed. To say that these cases will occur, would not do justice to the facts. They are very frequent, I have seen hundreds; but lately a child of sixteen months of age, and of six pounds in weight, was presented to me with the same symptoms, and with the additional remark, not only that everything had been done by the medical adviser to stop the exhausting diarrhœa, but also, that a cow had been purchased for the sole purpose of furnishing pure milk for the suffering baby. That suffering baby was instantly improved when the pure milk was stopped, and more suitable food was substituted.

The objections to cow's milk, as the exclusive diet of infants, in place of mother's milk, which cannot be had, are dependent on its very chemical composition and physical properties. These cannot be changed by the most studious and successful attempts at procuring the most uniform and pure article possible. That, however, does not prove that a bad or indifferent milk is as good and useful as the very best milk from the very best cows. The inference is rather this: that the employment of inferior milk is criminal when good milk can be had through precaution, care and industry. To have accomplished that purpose is the pride of several European cities. In some it was through medical societies that the idea was started and put into effect, to procure as good milk as cows of good stock, well fed under favorable sanitary conditions, could furnish. Stuttgart had the first establishment of the kind; that in Frankfort-on-the-Main commenced its operations in 1877, with thirty cows, and increased that number to eighty-one in 1881. The amount of milk produced and delivered to consumers in 1881 was 313,563 litres (quarts), more than ten quarts per cow daily. The establishment is private property, but to earn the support of the public, and to secure the desired coöperation of the physicians of the town, the proprietor bound himself not to engage in any other business, and solicited the control and advice of a committee, consisting of three delegates of the medical society, one veterinary surgeon and one chemist. Great pains are taken in the purchase of animals of a good stock, all of them thus far being imported from Switzerland. Before they are admitted they are examined by the vet-

erinary surgeon, who superintends the institution, and keeps a regular record of those who may fall sick. Two months before calving the milk is not sold at all. The age of the cows of from three to eight years is considered the only available one. The stables are well ventilated, and washed, drained and connected with the system of city sewers. The floors of the stalls, the ceilings and the lower part of the walls are cemented. The skin of the animal is looked after with great care. The stables are so near the city limits that the milk cannot suffer by transportation. It is tightly corked in half-quart and quart bottles (this process being cautiously watched), and speedily delivered. Printed directions for its further treatment accompany the article. Besides, stress is laid on avoiding a prejudice on the part of the public, to which I have raised objection long ago, with but very partial success, viz.; not to select the milk of a special cow for the special use of the same individual, but to mix and equally distribute the milk of the whole dairy.

A great innovation for practical purposes, based on good experiments and long experience, is that no change of food takes place, and poisonous, purgative or otherwise injurious admixtures to the food of the animals are avoided. Dry food only is given, viz., 15 kilog. (30 pounds) of hay, 6½ kilog. (13 pounds) of meal and bran, 6 grammes (1½ drachms) of salt, and spring water to drink.*

Human knowledge and foresight have almost exhausted themselves in these praiseworthy efforts. But the result of them all is good cow's milk, and no equivalent for mother's milk. But do I mean to say that cow's milk, given pure, or cow's milk mixed with water, is absolutely injurious, poisonous, to babies? Far from it. The undeniable fact that there are infants who thrive on that exclusive diet, or whose general condition of health remains such that no medical or medicinal interference in their behalf appears called for, would give the lie to such an exaggerated opinion. Still, there are a great many infants who appear to thrive better than they actually do. Many grow fat and

* Dr. V. Gnyrim, in "Frankfort-on-the-Main, Its Hygienic Conditions and Institutions." Ed. by Dr. A. Spiess, 1881.

rotund on improper food, no immediate harm makes its appearance, and still you see many such as increase in weight, even more than the average infant, and still lay the gradual foundation to future ailing. For such fatness and rotundity means, too frequently, rachitis, and requires watching and change of food. Still, the number of infants remaining in good condition on that food is not very small. What does it prove? Nothing else but that the digestive processes permit of a certain latitude, that nature does not do routine work, and that the sum total of vital processes do not respond to certain occurrences, or influences, like reagents in a chemical test, where the same process always yields the same results. There is no food on which certain infants will not thrive. But when, in a larger percentage of cases, the same unfortunate results are exhibited, and when these can be traced to their exact and uniform cause, that particular food is to be condemned. The assertion of many that cow's milk is an exact substitute for human milk, is the counterpart of that which claimed equality for animal and human blood. The practice, based upon this assumption, resulting, as it did, in the transfusion of animal blood into the human circulation, outlived itself very speedily.

Cow's milk, as a universal substitute for mother's milk, has lost its credit with many through the differences in the article; which, however, as long as no adulterations are perpetrated, are less marked than the same secretion of the human being. If that were not so, how does it happen that all over the civilized world substitutes are sought for, offered and purchased, though milk be as cheap and handy as anything else? Why is it that to avoid cow's milk untold risks are run in procuring more expensive, more unknown and more unreliable vegetable compositions, which seldom keep the promises loudly displayed on the labels? What are the promises? What does it mean when they claim to take the place of mother's milk?

Mother's milk is considered the best prepared article of food known, though, as you have been told before, it may be—it could have been improved upon. Perhaps it is the best, though; at least there was a time when we were all of that opinion; for perhaps the surplus fat, which passes off undigested, may serve

some purpose hitherto unknown. An ideal article of food must serve two purposes and consist of two classes of constituents. It must, in the infant, supply the growing tissue with material sufficient to take the place of that which is constantly wasted, and to allow a surplus for increase; and, secondly, supply fuel for the purpose of keeping up the production of an equable temperatu.e and the functions of the organs, mainly those of respiration. The first requirement is fulfilled by the proteinous, or albuminous, substances, the other by carbo-hydrates. This statement would require modification, if it were the object to be absolutely correct, for the two classes will supply each other, act vicariously for each other, even change into each other, under certain circumstances, in the complex machinery of the human system. The albuminous tissue-builder in the milk is mainly caseine, sometimes, also, albumen; the second class is principally represented by fat and sugar. In vegetables the first class is represented in the gluten, the second mainly in the starch. If you add that in the milk, the ideal food, the proportion of the first class to the second is about 1 to 4, the vegetable substitutes are to be judged, in regard to their mere chemical composition, to that formula of about 1 to 4.

But it is not the chemical formula alone which determines the rank of a substance as a nutriment. To the equivalents of the chemical formula of cow caseine infant mathematics would not object, did not the infant stomach revolt against it. Thus it is not exclusively the chemistry of an article, but its digestibility, which comes into question. Now, not everything is equally digestible for everybody, sick or well, old or young, adult or child, child or infant, infant or newly born. And particularly is that so with regard to starch, which forms such an overwhelming part in the composition of vegetables, and particularly of those which are mainly used for the purpose of the manufacture of infants' food.

Starch is changed into sugar and rendered digestible by the secretion of two sets of glands, the salivary glands and the pancreas. The latter does not does not possess that function before the end of the first month of life. The former begins to perform the same function, to a certain degree, immediately after birth.

The experiment has been made by Schiffer, Korowin and many others. Starch, inclosed in a small bag, is introduced into the mouth of the infant. After a certain time the starch is found to be transformed into sugar. To collect fifteen grains of saliva in a baby of two or three weeks took from fifteen to thirty minutes; in a baby of two months, one or two minutes. Thus two facts result from these experimental observations: 1. That starch is digestible at any age. 2. That the transformable and digestible amount of starch is but very small in the first few weeks of an infant, and increases gradually. About the eleventh month the digestive property of the saliva is equal to that of an adult, when the quantities are equal.

The inferences to be drawn are: 1. That farinaceous foods may contain starch, but starch must not be the main part of the food. 2. That when they contain a great deal of starch it is best to change it, by a thorough baking process, into dextrine, which is changeable into sugar, and is easily absorbed and utilized. 3. That those farinacea ought to be selected for infant food in which the proportion of gluten to starch favors the former.

There is another consideration of vast importance, which, when the infant foods now in the markets were first manufactured, could not be known. Starch is not the same article everywhere. In different substances it requires different times to be transformed into sugar. Potato starch requires 2 to 4 hours, that of peas 1¾ to 2 hours, wheat ½ to 1 hour, barley 10 to 15 minutes, oats 5 to 7 minutes, rye 3 to 6 minutes, maize 2 to 3 minutes.

Guided by these facts, I invite you to scan with me a number of farinaceous substitutes—their claims, promises and powers. You will notice, there is not one of the men or companies who supply them but is loud in the praise of his gift to infancy; not one but ranks in his actual or alleged estimation as the arch-benefactor of mankind.

Justus von Liebig's (the great chemist) substitute consisted of the flour of wheat and barley malt, bicarbonate of potassium, water and milk in certain proportions. For about twenty years this preparation has been the subject of eulogies and reproaches, until in its original form it has been nearly given up; for its home preparation is not so easy as its inventor claimed.

It requires too much care and attention from a person of intellectual undersize. Besides, everything containing sugar is liable to decompose in summer by fermentation and moulding; all preparations really dry have a bad taste. Moreover, the phosphate of lime, which, it is true, is found in sufficient quantity in both wheat and malt, does not get into the solution, and finally, for its preparation you always require milk—milk in winter and summer, milk in city and country, with all its actual or alleged dangers. Still more, it has, though prepared ever so carefully, proven unsuccessful in too many cases. Diarrhœa has often resulted from its use. Numerous attempts have been made to put it up for the market in such a shape that little time and no intellect might be required for its final use. Loefflund's article has the merit of being no fraud, as far as I know; that of Liebe I paid attention to when it was first largely advertised for sale. A dozen bottles contained in a box were examined; their consistency and composition differed considerably. Another preparation, alleged to be compounded according to the prescription of the great chemist, is sold with the name of his son, Herman von Liebig, attached to the recommendation of the label. He has a great deal too much to say in its praise. "1. This remarkable preparation accomplishes everything that can be expected of a substitute. 2. Although the flour is a perfect nutriment in itself, I still recommend on my labels its mixture with cow's milk. 3. Where good cow's milk cannot be had, condensed milk may take its place. 4. Infants fed on cow's or condensed milk ought to have it mixed with my flour." You see the unsophisticated public must come to the conclusion that the object and destination of this food is no other but to be purchased.

Next in order is Nestle, as widely known as Plantation Bitters and cider vinegar. This food consists of milk, wheat flour (alleged to be baked, for the purpose of crushing the cellulose and cell membranes), sugar and salts. As a chemical critic says (H. Mueller, in *Pharm. Centralhalle*, xvi., 1875, n. 34), he publishes no analysis, but advertisements only; and he knew how to advertise. I remember well when the people of New York awoke one morning to find their libraries increased by a big pamphlet

containing the new revelation. It was written by no less a person than an emeritus university professor of pathology, in his time a justly celebrated man, Lebert, who passed his very old age in the neighborhood of where Nestle had established his health, life and money-breeding factory. Every such pamphlet commences with a declaration of principles. This begins by telling the reader that cow's milk is more "nourishing" than human milk; that, however, the addition of water does not make it any more similar to the latter; and that the nursling ought to have cow's milk at once alongside that of his mother—probably to improve upon nature's plan. Then why does he want or recommend substitutes, if cow's milk does so well—even better than well? For the simple reason that if people would feed their own cow's milk they would not purchase Nestle's; and in order to induce them to do the latter he tells you that your cows may be tubercular, may be fed improperly, their milk may be adulterated with water, or may contain disease germs. Nestle's cows are not tubercular, we are to infer, are not fed improperly, their milk cannot be adulterated, nor does it contain disease germs—indeed not. For it is the milk of *Swiss cows*, with such a halo round their horns that even that public-spirited institution called St. John's Guild, of New York, publishes an advertisement of Anglo-Swiss food on the last page of its pronunciamento on the bringing up and feeding of little children, which is distributed gratuitously, or for an annual contribution of three dollars.

[TO BE CONCLUDED IN JUNE NUMBER.]

A LECTURE ON THE HISTORY OF DISCOVERIES CONCERNING THE CIRCULATION OF THE BLOOD. Introductory to the Course of Physiology. Delivered in the University of Edinburgh, October 28, 1881, by WM. RUTHMRFORD, M.D., F.R.S., Professor of Physiology.

GENTLEMEN:—It has for some years past unfortunately become customary on the part of certain opponents of medical progress, to systematically represent that nothing of any value has been

learned by experiments on animals. These persons have been "heard because of their much speaking." By the frequent repetition of statements calculated to produce an erroneous impression upon those who have not been educated in biological science, they have succeeded in persuading many intelligent persons to believe their false report. It seems to me perfectly plain that we must not any longer merely trust the common sense of the public to perceive that they are being systematically misled by the enemies of science. We must trouble ourselves more than we have hitherto done to provide the public with a true account of the manner in which important physiological discoveries have been arrived at; and, as "truth is great and will ever prevail," I am sure that, if we put our case clearly, it will not fail to convince minds that are unprejudiced. I cannot in the course of an hour do more than allude to a limited part of physiology, and I have chosen the circulation of the blood, because that is a typical case, from which the others may be judged.

It was long a prevalent idea among the ancients that the blood of the body is contained in the veins and right side of the heart, while the left side of the heart and arteries are filled with air derived from the lungs and distributed to all parts of the body to keep it cool. So completely did this idea—of blood in the veins only—occupy the minds of classic writers, that even now, were any one on some rhetorical occasion to say, *e.g.*, that Mr. Gladstone has Scottish blood in his *arteries*, he would be regarded as an iconoclast of classical phraseology. That old erroneous idea resulted from lack of knowledge regarding the many differences that exist between a dead and a living body. It is true that the blood, to a large extent, leaves the arteries at death, and accumulates in the veins, and that when both sets of vessels are cut across after death, the thin-walled vein collapses, while the thick-walled artery remains patent and becomes filled with air by the elasticity of its wall. But it is equally true that until the artery is opened, there is no air in it, either during life or after death.

In the time of Galen it came to be recognized that the arteries contained blood, but it took many a long century after him to discover that the arteries contain blood without an admixture of air. Galen was a Roman of the second century. He was the

physician and friend of the great Emperor Marcus Aurelius. He was a man of much force of character, and an indefatigable investigator. His book on the "Uses of the Parts of the Body" is of great historical interest to the physiologist. It shows that Galen was always in his researches actuated by the conviction that "nature does nothing in vain," and that every part of the body must have some utility. He dissected the dead, he experimented on living animals, and he watched the effects of diseased conditions which have, aptly enough, been designated the "experiments of nature." By observations made by these three methods, he criticized the ideas of his predecessors, and advanced many new doctrines, some near the mark, many wide of it. It is not surprising that many of his theories should have turned out erroneous, for with a mechanism like the animal body, so complicated and difficult of comprehension, how could he, in the infancy of science, do otherwise than err greatly on many points which chemistry and other developments of modern science were needed to explain?

Galen's teaching with regard to the movement of the blood deserves our attention, for it lasted from the second until the seventeenth century, when it received its final blow from Harvey. Galen said, since the different parts of the animal body require to be nourished, nature has provided the alimentary canal, a large channel common to all the nourishing materials, and a system of smaller channels—the vessels which convey the nutriment to all parts of the body. In the stomach the food undergoes a primary elaboration, and the material suitable for nourishment passes into the veins of the stomach and intestines, and thence by the vena porta to the liver, where it undergoes a second purification, the useless material being thrown away as the bile, and the remainder becoming "perfect blood." He compared the "liquid humor" found in the portal vein to the juice just expressed from the grape —which must undergo fermentation and refinement before it becomes real wine. To Galen, therefore, the liver was a blood-making organ; it was the "fountain of the blood," which flowed away by the hepatic veins to the vena cava, to be conveyed to all parts of the body (*lib. cit.*, bk. i., ch. v). According to Galen, the blood flows up the vena cava to the head, neck, and arms,

and down that vessel to the lower parts of the body; and everywhere the tissues are nourished by blood brought to them by the veins. He regarded the right auricle of the heart as a sort of diverticulum from the vena cava, through which some of the blood passes from the vena cava into the right ventricle. From the right ventricle it takes two courses ; part of it passes through the pulmonary artery to nourish the lungs, while the remainder passes through pores in the septum of the heart into the left ventricle. There it is mingled with air drawn from the lungs through the pulmonary veins, and the mixture of blood and air leaves the heart by the aorta, to be distributed by the arteries to all the organs. So, said he, every organ is supplied with a vein, an artery, and a nerve; the blood in the vein nourishes it, the artery supplies it with vital spirits and keeps it cool, and the nerve gives it sensibility. Galen evidently thought that by getting the blood from the right to the left side of the heart through its partition wall, he had triumphantly explained how it is that in the living animal there is blood in the left as well as in the right ventricle of the heart, and yet he was still in harmony with the doctrine of his teachers, that air passes from the lungs to the heart and arteries through the pulmonary veins.

But he started another unfortunate error, which was even in the seventeenth century, supported by Riolan, of Paris, in opposition to Harvey. Galen stated that everywhere throughout the body the arteries and veins frequently anastomose by small openings, whereby an interchange of blood and air takes place (*lib. cit.* bk. vi. ch. x.) With that idea we must return for a moment to the lung. Galen made the discovery that the pulmonary veins are not merely air-tubes, as previously supposed, but that they contain blood as well as air, and he accounted for the presence of the blood by supposing that it escapes from the pulmonary artery through his imaginary anastomoses between it and the pulmonary vein. He said that the blood is squeezed through these minute openings by the contraction of the chest, "since the sigmoid valves at the orifice of the pulmonary artery prevent its reflux to the heart, where can it go when urged by the fall of the chest-wall, but through the small side apertures between the pulmonary arteries and pulmonary veins?" Apparently Galen did not

attach much importance to the blood in the pulmonary veins. It seems as if he thought it got into the veins by a sort of *side issue*. The imaginary pores in the septum of the heart appear to have been to him the great channels by which the blood reaches the left ventricle. Still, it must be admitted that Galen very nearly discovered the pulmonary circulation. His teaching with regard to the heart and pulse is also of interest, for it encumbered physiology until Harvey showed its error. Hippocrates, and Galen five centuries later, compared the heart's action to that of the chest. As the chest moves up and down, inspiring and expelling air like a pair of bellows, in like manner the heart, with its valves, acts like bellows, forcibly drawing blood into its right, and air into its left side, and then expelling both by the arteries. This indrawing of the blood and air, like the act of inspiration, was thought to be the more forcible of the two movements. Galen also regarded the pulsatile movements of arteries as a bellows movement, the artery drawing in blood and air when it expands, and expelling them when it contracts, and he thought that the expansion of the arteries is synchronous with the dilatation of the heart—a great error.

Now, that is the doctrine regarding the motion of the blood which continued to hamper the progress of medicine for many centuries, and undoubtedly the reason why Galen, with all his ingenuity, failed to correct so many errors, was that he was not sufficiently impressed with the necessity for bringing all theories to the touchstone of exact observation and thoughtfully planned experiment.

The next discoverer was Michael Servetus, the Spaniard, whose tragic death at the stake—because of his religious opinions—ended untimely a life that might have rendered much service to science. In a work on "The Restoration of Christianity," published in 1553,* Servetus states that comparatively little blood permeates the septum of the heart; most of it passes through the pulmonary artery to the lungs, where it becomes of a crimson color, and returns to the heart by the pulmonary veins, which carry air as well as blood. Some years later, Columbo, professor

* See the valuable work, "Servetus and Calvin," by R. Willis, M.D., London, 1877.

of anatomy at Padua, and Cesalpinus, of Pisa, also described the passage of the blood through the lungs.

We come now to the discoveries of Harvey.

William Harvey, a native of Folkestone, lived at a time which will be forever memorable in the history of England. It was the time of Shakspeare and Milton, of Dryden and Ben Jonson, of Bacon and Robert Boyle, and it is not too much to say that Shakspeare did not do more for English literature than did Harvey for English medicine. Harvey was well educated. He took the degree of Bachelor of Arts at the University of Cambridge, and as the medical schools of Italy were then more celebrated than those of England, he went to Padua, and there studied medicine for five years. He returned to England, took the medical degree of Cambridge, and settled in London. He was appointed physician to James I., and afterward to Charles I., who took a deep interest in his experiments, and gave him for the purpose of vivisection many animals from the royal parks. In 1615 Harvey was chosen to give lectures on anatomy at the London College of Physicians, and in his first course in the subsequent year he gave for the first time a public account of the results of an elaborate research "On the Motion of the Heart and Blood," which had culminated in his doctrine of the circulation. Harvey was then in his thirty-eighth year. He had been in no haste to catch the notice of the public by publishing fragments of his research, but he wisely waited until he had accumulated observations and arguments sufficient to establish his doctrine of the circulation upon a foundation that could not be shaken. You can at any time peruse the excellent translation of Harvey's works by Dr. Willis, and from them, together with the account of Harvey's life by the translator, learn how Harvey arrived at his results. He had at Padua been instructed in the doctrines of Galen. He had learned Columbo's account of the manner in which the blood passes from the right to the left side of the heart through the lungs; he had also learned the anatomy of the valves of the veins. These valves were discovered in 1754—whether by Fabricius or Sylvius is disputed—but, at any rate, they were discovered at least four years before Harvey was born. He tells us, however, that their function had been entirely

follow the entrance of even a relatively small quantity of air into the veins.

Harvey also upset the doctrine that the blood passes from the right to the left ventricle through pores in the septum of the heart. He says "no such pores can be demonstrated" (*lib. cit.*, p. 17), and "why have recourse to invisible porosities * * * when there is so open a way" from the right to the left side of the heart through the pulmonary artery and pulmonary veins. But he also adduces experiments. He says (*lib. cit.*, p. 135) that if you tie the pulmonary veins in a living animal, and so prevent the blood from entering the left side of the heart, death ensues; and he gives you to understand that the results are similar to those in death from asphyxia—the right side of the heart becoming engorged, the left comparatively empty; and then he concludes that "as all these particulars have been recognized by the senses, it is manifest that the blood passes through the lungs, and not through the septum," in its course from the right to the left side of the heart, and that the right ventricle is intended to drive the blood through the blood-vessels of the lungs, and through them alone.

There was another great fact overlooked by all the predecessors of Harvey which was of fundamental importance in leading him to the idea that the blood moves in a circle. He evidently asked himself the question, How much blood does the heart transmit from the vena cava to the arteries in a given time? He found that in the dead body the left ventricle holds upwards of two ounces of blood. Then he says (*lib. cit.* p. 48), let us assume how much less the heart will hold when contracted than it does when dilated, and how much blood it projects into the aorta at each contraction. "Let us suppose that, as approaching the truth, the fourth or fifth, or sixth, or even but the eighth part of its charöe, is thrown into the artery at each contraction. This would give either half an ounce, or three drachms, or one drachm, of blood as propelled by the hear at each pulse into the aorta, which quantity, by reason of the valves at the root of that vessel, can by no means return into the ventricle. Now, in the course of half an hour, the heart will have made more than one thousand beats—in some as many as two, three, and even four thousand.

Multiplying the number of drachms propelled by the number of pulses, we shall have either one thousand half-ounces or one thousand times three drachms, or a like proportional quantity of blood, according to the amount which we assume as propelled with each stroke of the heart, sent from this organ into the artery a larger quantity in every case than is contained in the whole body! * * * But let it be said that this does not take place in half an hour, but in an hour, or even in a day; any way, it is still manifest that more blood passes through the heart" (in that time) "than can either be supplied by the whole of the food consumed, or than can be contained in the veins at the same moment. * * * In short, it could be furnished in no other way than by making a circuit and returning." And then he says: "This truth indeed presents itself obviously before us when we consider what happens in the dissection of a living animal. The great artery need not be divided, but only a small branch, to get the whole blood in the body, that of the veins as well as that of the arteries, drained away in the course of half an hour or so" (*lib. cit.*, p. 50). Observe how he proved by that experiment that all the blood of the veins flows through the heart into the arteries, and can escape by an opening made into one of them, even one of small size. These are the facts that led Harvey to believe that the blood moves in a circle, and it is to be observed that he nowhere mentions the valves of the veins as in any way assisting him toward his great conception.

With regard to the flow of blood in the veins, Harvey demonstrated that the blood flows only toward the heart. He opened the jugular vein in a living animal, and found that it ceased to bleed when its cranial end was squeezed, but continued to bleed although its cardiac end was compressed, proving that the blood flows in the vein toward the chest, and not from it, as Galen supposed. He experimented on the flow in the veins of the human forearm. He tied a fillet round the upper arm, and showed that the veins on the cardiac side of it become empty, while those on the distal side become engorged; proving that the blood was prevented by the fillet from flowing through the veins toward the heart. He observed in the bandaged arm the bead-like swellings of the distended veins that mark the situations of the valves.

He applied two fingers to a vein: with one he pressed the vein to prevent the entrance of more blood from below, while with the other he squeezed the blood out of the vein upward past a valve, and observed that the blood could not return to the emptied segment because of the valve. In that way he demonstrated the function of the venous valves.

If Harvey had only had a microscope able to reveal the capillaries in the web of a frog, in the wing of a bat, or in the tail of a fish, he could readilly have demonstrated the actual fact that the blood does flow from the arteries to the veins. But it was reserved for Malpighi to furnish that final link in the chain of actual demonstration. Harvey had to fight his battle in ignorance of the capillaries. He could only say, "The blood must pass from the arteries to the veins and return to the heart, but I cannot exactly say through what channels the passage is effected; the blood appears to pass through the pores of the tissues."

There was much commotion when Harvey proclaimed his doctrine. Many blamed him for his temerity in daring to call in question the doctrines of the ancients; many denied the truth of what he said. But he was indefatigable in demonstrating his experiments, and in devising new ones to carry his case, and he lived to see his doctrine at length accepted by nearly all. But observe how history repeats itself. Harvey, in one of his letters (*lib cit.*, p 109) says: "There are some who say that I have shown a vainglorious love of vivisection, and who scoff at the introduction of frogs and serpents, flies, and other lower animals upon the scene, as a piece of puerile levity, and they do not hesitate to use opprobrious epithets. But to return evil-speaking with evil-speaking I hold to be unworthy in a philosopher and searcher of the truth. I believe I shall do better and more advisedly if I meet so many indications of ill-breeding with the light of faithful and conclusive observation. Detractors, mummers, and writers filled with abuse, I resolved never to read them, satisfied that nothing solid or excellent, nothing but disagreeable terms, was to be expected from them, so have I held them still less worthy of an answer. Let them consume on their own ill-nature; let them go on until they are weary, if not ashamed.'

These are the words of Harvey. His detractors did at length grow weary. Even in these days of detraction he—the greatest vivisector this country has ever known—is treated with respect, and a monument is raised to his memory in his native town. How often it has happened in the history of science, that those who cannot comprehend the aims and methods of the searcher after scientific truth have been all too ready to cast a stone. So it was with one so great as Harvey. His humble followers need not wonder if they fare no better.

The work of Harvey was worthily followed up by the Reverend Stephen Hales, rector of Faringdon, in Hampshire, and minister of Teddington-on-Thames. To him we owe the first measurement of the pressure of the blood in arteries and veins. This knowledge was entirely arrived at by experiments on living animals. In his valuable "Statical Essays" (London, 1740), ordered to be printed by the Royal Society of London, he gives the details of experiments on animals, in which he introduced a long, upright glass tube into one of the larger vessels, and observed the height of the column of blood which the pressure could support. He made many experiments on different animals; he observed the effects of various conditions on the blood-pressure, and so tapped a spring of knowledge that still flows with new discoveries. In physiology and pathology there is scarcely any subject which requires to be more frequently taken into account than the blood-pressure. It is, like the pulse, a household word to the physiologist.

I fancy the Rev. Stephen Hales would have been greatly gratified, could he have seen all that was to flow from his experiments, and I rather wonder what he would have said had he lived until now, and been asked to conduct an anti-vivisection prayer meeting.* I am sure he would have felt no little sadness at the strange short-sightedness of some of his fellow-Christians.

From Harvey and Hales let us pass to Hunter. John Hunter was a Scotchman of whom we have reason to be proud. We have, indeed, raised no monument to his memory, but he needs none. The great Museum of the Royal College of Surgeons of

* An "anti-vivisection prayer meeting," duly advertised at intervals during the past two years, has been one of the features of the anti-vivisection movement in Edinburgh.

... of the wonders of the scientific world, is his monu-
... *monumentum requiris, circumspice*, may truly be said
... who gaze at his work. I have no time to detail to you
... Hunter has been termed the father of modern surgery, but
you will find it was because he was a great physiologist. He did many experiments on living animals. The results of one of these led him to revolutionize the treatment of aneurism—that disease of arteries always so dangerous, and nearly always deadly, before he invented the operation which bears his name. The singular history of that operation has been well told by Professor Owen, formerly Curator of the Hunterian museum, and therefore one who is intimately acquainted with the history of Hunter's work.* Hunter was interested in the growth and shedding of the stag's antlers, and being curious to know what would happen to the growing antler if deprived of its supply of blood, he tied the external carotid artery on one side of the neck. On examining the antler a week later, he found, to his surprise, that its root was warm and pulsating, as it had been previous to the operation. His first impression was that he had not tied the artery properly. To satisfy himself on that point, he had the animal killed, the arteries of its head and neck injected, and then minutely dissected; and he found that the carotid had been duly tied, but that small branches springing from the cardiac side of the ligature had enlarged, and had thus carried by collateral channels blood to the antler. He had not anticipated this result. He now saw that small blood-vessels may become enlarged, to meet altered physiological circumstances. He quickly translated the thought to popliteal aneurism. He determined to tie the artery on the cardiac side of the throbbing tumor, and hoped that while the stagnant blood would coagulate within the aneurismal sac and terminate the agony of its throb, and the fatal danger of its bursting, still, haply, the limb beyond the seat of ligature might not die, but might be saved by the gradual establishment of a collateral circulation, as in the case of the antler. It was even so. The scientific instinct of Hunter guided him aright, and ever since his day the Hunterian operation for aneurism is that

* See *Brit. Med Jour.*, 1879, Vol. I, p. 284.

adopted; and it would be difficult to estimate the number of limbs and lives that have been saved owing to the thoughtful observation of the effect of tying an artery in the neck of a stag.

But how can I possibly recite in an hour all the discoveries regarding the circulation made by vivisection? Harvey and all before him thought that the heart is the great source of the heat of the blood. The great phenomenon of fever is an increased production of heat. How could we hope to gain a true theory of heat-production in fever if we are still under the delusion that the heart is the great source of heat? Experiments on animals alone showed that the heart is not a more important source of heat than any other muscle, and that the hottest blood of the body is not in the heart.

Our knowledge of the causes of the sounds of the heart we owe to experiments on animals, aided by the observation of diseased conditions. The late Dr. Hope, when a resident physician of the Royal Infirmary of Edinburgh, performed the celebrated experiment in which he hooked aside the sigmoid valves at the arterial openings of the heart of an animal, and found that the second cardiac sound disappeared. Also, by experiments on animals, it has been shown that the first sound of the heart depends on vibration of the auriculo-ventricular valves, and the contracting muscular fibers of the ventricles. The knowledge thus gained experimentally is daily of service to the physician. When he hears the second sound of the heart changed from a sharp click into a blowing murmur, loudest over the third right costal cartilage, he knows at once that the sigmoid valves of the aorta are no longer preventing the return of blood from the aorta into the heart, that the left side of the heart has its labor increased, and that the life of the individual is in great danger if ever he overtasks the heart by severe exertion. Many other facts of value in practical medicine attach themselves to a knowledge of the causes of the cardiac sounds.

Again, where shall we find in physiology and pathology a subject more important than the functions of the nerves of the heart and blood-vessels? How could we know that the heart has within itself the nervous apparatus essential for its movement, unless we excised the heart of an animal—a frog, for example—

and found that it still goes on beating, and that when cut into pieces, that portion containing the nerve-cells is the only part which continues to beat? How could we have known the great fact that there is a nerve which controls the cardiac movements, and can arrest them, and can in some occasion a fatal swoon, if it had not been discovered by Weber that when the pneumogastric nerve is divided and its cardiac end stimulated the heart's action is always retarded, and it may be for a time arrested? That experiment laid the foundation for our knowledge of inhibitory nervous action—a subject of far-reaching significance, and essential for a knowledge of the function of the nervous system. Again, how could we, but by experiment on animals, have made the important discovery that the nerves which inhibit the heart are affected by various drugs; some, like atropia, paralyzing them; others, like pilocarpine, increasing their sensitiveness? Again, all that we know definitely regarding nerves that accelerate the heart's action we owe to experiments on animals performed by Ludwig and others. The key to our knowledge of the great system of nerves that presides over the blood-vessels was discovered by experiment. Bernard divided the sympathetic nerve in the neck of a rabbit, and observed that the blood-vessels on the same side of the head became dilated. The cranial end of the divided nerve was afterward stimulated, and pallor of the previously congested part was the result. That was the discovery of vaso-motor nerves. All the arteries and veins in the body are governed by such nerves. Were we still ignorant of them, we could not understand the pathology of those forms of paralysis termed reflex, and, necessarily, we could not devise any rational method of treatment. And again, the nerves which cause dilatation of blood-vessels—our knowledge of such nerves we owe entirely to experiments on animals.

Time will not allow me to do more than merely say that to experiments on animals we owe much knowledge regarding the action of drugs on the heart; regarding the coagulation of the blood; regarding its respiratory changes and the manner in which its composition is affected by the inhalation of various gases: indeed, to show fully all that we have learned concerning the circulation from experiments on animals would require at least ten

lectures instead of one. Other departments of physiology also teem with facts arrived at by vivisection. Were all these facts eliminated from physiology and from medicine, the remnant would indeed be a sorry figure, and in this age of brilliant scientific advancement, those who profess medicine would be treated with contempt, because of their almost complete ignorance of the bodily mechanism. I am convinced that if unbiased minds would only consider what has actually been achieved for medical science by experiments on living animals, they would not fail to see the necessity for allowing without hindrance all duly qualified medical men, willing to undertake the labor, to carry on in the future that kind of research which has yielded so much fruit in the past. And although the great majority of even the educated public can not, from want of a medical education, fully understand our methods of research and the objects we have in view, yet they ought to credit us with sincerity, and with a desire to pursue in a humane manner the search for that knowledge by which the whole civilized world profits daily.—*London Lancet.*

RESOLUTIONS ADOPTED BY THE INTERNATIONAL MEDICAL CONGRESS, LONDON, 1881, AS TO "TESTS OF SIGHT SUITABLE TO BE ENFORCED IN THE CASE OF SIGNALLERS AND LOOK-OUT MEN, AND OTHER PERSONS BY LAND OR SEA, WITH SUGGESTIONS AS TO IETERNATIONAL ARRANGEMENTS FOR A UNIFORM SYSTEM OF MARITIME, COAST, AND HARBOR SIGNALLING, WITH A VIEW TO THE SAFETY OF LIFE AND PROPERTY, Followed by Explanatory Remarks under the several Articles.

A.—WITH RESPECT TO LAND.

(1) That the recommendations of the last International Medical Congress, held at Amsterdam in 1879, are accepted by the present Congress as forming the most suitable basis upon which every government may frame its own regulations as to its railway service. They are contained chiefly in Article XII of the "*Projet d'un règlement pour l'examen des facultés visuelles du personnel des chemins de fer,*" laid before and accepted by the

glasses fail to help just where clear sight is most needed, *e.g.*, in storm, rain, or fog.

Acuity of Sight.—Complete acuity is not more than sufficient, and even scarcely sufficient, having regard to the increasing number, size, and speed of steamers. But it will be practically enough if at sea this complete acuity is attained by the use of *both eyes combined.* The number of persons excluded under this rule will be much less than if complete acuity for *each eye separately* is exacted.

The acuity is supposed to be determined by viewing letters or signs at a certain distance, under a certain angle, on the principle of the test-types of Snellen.

Color Sense is supposed to be tested by pseudo-iso-chromatic tables, on the principle of those of Stilling, subject to control by the use of light transmitted through colored glass, in imitation of signal lights. This control will also aid in detecting central scotoma for colors, in the very rare cases where it might co-exist with the required acuity.

Holmgren's excellent tests have been already extensively adopted. But their use demands more skill in the examiner. Tests well selected on the principle of Stilling might be very well adopted as standards for ascertaining normal color sense, as well as definite degrees of color sense below the normal. The principle of Stilling has been recommended as affording a quantitative as well as a rapid qualitative test.

(3) A lower standard is fixed in the coasting trade (excluding steamers), because the vessels are smaller and the speed less. Moreover, a demand for full acuity would render it difficult to procure a sufficient number of sailors; as each hand must be liable in small vessels to serve at the helm.

(4) It is obvious that the persons here named must have full acuity and color sense.

(5) Persons having a manifest hypermetropia above that here indicated would not possess, at the age of thirty-five or forty, without glasses, the needful degree of acuity; it is better, then, both for themselves and the service, that they should not be admitted at all.

(6) The attendant practical difficulties have caused one re-examination only to be advised, at the age of forty-five. It has been found that the very great majority of persons, once admitted as having good sight, have retained it up to that age. A great number, no doubt, have been admitted hitherto without sufficient examination. Still, it would not be practicable to institute a general examination of those already in the service. Nevertheless, it would be desirable to examine anew, in the case of passenger steamers, all those responsible as helmsmen and look-out men.

The Congress recommends that surgeons of ships should be qualified to exercise special surveillance as to the sight of those employed in these capacities on board.

(7) A central medical authority is requisite to insure the perfection of the system and its uniformity. He should propose the examiners, and be responsible for their fitness. They should be men of ascertained competency, and as far as practicable, qualified as medical specialists.

(8) The measures recommended in Articles 2 to 7 should be brought into operation without delay. But an international commission would still have to determine the precise color of the glass, securing uniformity in that as well as in the size and disposition of the signal lights.

The Congress lay the greatest stress upon the appointment of this commission in respect of marine signalling, as quite indispensable for the attainment of the object in view. The commission would have to inquire into, and decide upon, many matters on which information is at present incomplete, and regarding which only a few points have been touched upon in Article 8.

Every government, especially the maritime governments, should be requested to place one or more members on the commission, and chiefly experienced naval officers and medical specialists.

It is understood that this question of an international commission is about to be submitted to the legislature of the United States of America, supported by a petition largely signed by scientific men of that country.

The resolutions emanated from the Ophthalmological Section of the Congress, and were drawn up, in the first place, by a committee representing twelve different countries.

FORTY-SEVENTH CONGRESS, FIRST SESSION. HOUSE OF REPRESENTATIVES. REPORT No. 445.

The Commitee on Naval Affairs, to whom was referred joint resolution No. 24, relating to color-blindness and visual acuteness in persons employed in the Navy and merchant marine, have considered the subject, and submit the following report:—

At the last session of Congress this subject was brought to the attention of the House by petitions signed by numerous highly distinguished scientific men of the country. The Committee on Naval Affairs of that House gave the subject careful attention, and made a report, which we quote as the best presentment of our views which we are able to make. That report is No. 1569, Forty-sixth Congress, second session.

Dr. B. Joy Jeffries, of Boston, who has devoted much time to the study of this very important subject, and who has voluntarily, and at his own expense, done much to awaken interest in it in several of the States, and who by his disinterested efforts has induced many of the great railroad companies to adopt his system of examination and test for their employés, was invited to come before the committee and give his views upon the subject. He accepted the invitation, and on the twenty-third day of January last he appeared before the committee and illustrated the various methods which have been adopted in this country and in Europe for the detection of color-blindness, and the tests made use of to determine visual power and acuteness, and explained the importance of establishing by an international congress a universal system of examination and tests for these visual defects, and a standard of colors for signals at sea, to be used by maritime nations. An abstract of the remarks of Dr. Jeffries is hereto annexed as an appendix to this report.

The committee think the subject is of so great importance as to demand the attention of all maritime countries, and they believe that the action recommended by this committee will, if adopted by Congress, meet with ready response from the other nations,

and that a system may result from it which will prove of vast benefit to the human race.

They recommend the adoption of the accompanying joint resolution as a substitute for that referred to the committee:

FORTY-SEVENTH CONGRESS, FIRST SESSION. HOUSE RESOLUTION 135.

Joint resolution relating to color-blindness and visual acuteness in persons employed in the Navy and merchant marine.

WHEREAS, it is important that definite and uniform standards of examination for color-blindness and tests for visual acuteness in persons employed in the Navy and merchant marine should be established, which shall be in harmony with such standards and tests as are or may be established by other nations. Therefore,

Resolved by the Senate and House of Representatives of the United States of America, in Congress assembled, That the President is hereby authorized and directed to appoint, by and with the advice and consent of the Senate, some suitable person qualified for such service, who, with one line officer of the Navy and one medical officer of the Navy, to be detailed or designated by the Secretary of the Navy, shall attend and represent the United States in any international congress or convention held by authority of law in any European nation to consider and act on said subject; and the sum of ten thousand dollars is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be used and expended, or so much thereof as may be needed, under the direction of the President, to compensate the person so appointed, and defray the necessary expenses of the person so appointed and of the officers of the Navy so detailed or designated. And the person so appointed and the officers of the Navy so detailed or designated under the provisions of this act, shall join in a report of the proceedings of such congress or convention, and the conclusion reached thereby, if any, to the President, to be by him laid before Congress, to the end that an international system of examinations for color-blindness and tests for visual acuteness, and standards for colors for signals used at sea, may be established by law.

IN WHAT CASES SHALL THE MEDICAL EXAMINER DECLINE TO VIEW A DEAD BODY? By Medical Examiner ALFRED HOSMER, M.D., of Watertown.*

To the rule laid down I have in practice made an exception when a notice has been sent by a magistrate or municipal officer of high grade. I have then entered upon a medical examination without preliminary questions, and it is a curious fact that in all such instances I have found myself dealing with a kind of inverted cone, so that the further down the investigation proceeded the nearer it has come to nothing.

"Upon the view of the dead bodies of such persons only as are supposed" etc. The word "only" is here used in a strong restrictive sense, and contains the prohibition which limits the official competence and jurisdiction of the medical examiner. Unless there be a supposition of violence his commission confers upon him no authority and he is powerless.

In deciding what is the significance of the word "persons," I shall take the liberty of referring you to an instructive paper,* written in answer to the question "What constitutes the dead body of a person?" and presented to this Society at the February meeting. The conclusions to which the writer came, after careful study and consultation, interests us now only so far as they relate to what of humanity is not included in the definition of "persons," as that term is understood and accepted by those who interpret law, and explain the intent of its equivocal portions. According to the indisputable authorities whom he quotes, judicial voices all agree in the declaration that a child is not born until it is entirely extruded from the maternal body, and that, although it may have breathed at some point in the partuient passage, if it be still at the instant of complete expulsion it has never become a person; and, therefore, cannot have been the subject of such violence as the medical examiner is qualified to recognize and certify to. No child known to be dead-born can be inspected in the sense of viewing the dead body of a person. But the question at once arises as to what course the medical

* Boston Medical and Surgical Journal, vol. cliii., p. 200.

examiner shall pursue in the event of the discovery, through the improper disposition of the body of a child born prematurely or at term, respecting which no information can be obtained. For a portion of them, Medical Examiner Holt lays down the following rule: "It would, perhaps, only be safe to conclude that all fœtuses born in the first half of pregnancy cannot live for any period, and the body of such an one cannot be considered the dead body of a person within the meaning of the law."

According to Caspar the maximum length of a fœtus at the end of the twentieth week of utero-gestation is twenty-eight centimeters. The application of a metric measure will determine with sufficient accuracy whether in a particular instance the medical examiner is dealing with a person or a thing. In other words he must decline to view a fœtal body unless it be more than twenty-eight centimeters long.

It appears from the Executive Board for 1879 * that in thirty-eight per cent. of all the views held the cause of death was found to be a natural one. Where three succumbed to violence, two yielded to nature. Can it be that in so large a proportion of the cases there was so much obscurity and mystery as to justly excite a suspicion of unlawful agency? Is it not possible that the office of medical examiner, like the drug last added to the materia medica, has been perverted through its application to conditions for which it was never intended? If this mistake has been committed, there was during the first few months that followed his institution an apology for it in the deficient condition of our statutes. An act † of the legislature of 1878 is the first that has

* Boston Medical and Surgical Journal, vol. ciii., p. 265.

† ACTS OF 1878, CHAPTER 174. SECT. 1. No human body shall be buried, or removed from any city or town, unless a proper certificate has been given by the clerk or local registrar of statistics to the undertaker or sexton, or person performing the burial, or removing the body. This certificate shall state that the facts required by chapter twenty-one of the General Statutes have been returned and recorded; and no clerk or local registrar shall give such certificate or burial permit until the certificate of the cause of death has been obtained from the physician, if any, in attendance at the last sickness of the deceased, and placed in the hands of said clerk or local registrar; *provided*, that in those cities and towns where local boards of health have been established, the certificate of the cause of death shall be approved by such board before a permit to bury is given by the registrar or clerk. Upon application, the chairman of the local board of health or any physician employed by any city or town for such purpose, shall sign the certificate of the cause of death to the best of his knowledge and belief, if there has been no physician in attendance. He shall also sign such certificate, upon application, in case of death by dangerous contagious disease, or in any other event when the certificate of the attending physician cannot for good and sufficient reasons be easily enough obtained. In case of death by violence, the medical examiner attending shall furnish the requisite medical certificate. Any person violating the provisions of this section shall be punished by a fine not exceeding twenty-five dollars.

ever authorized any one to certify to the cause of death whenever there has been no medical attendant during the last illness. Having made a general provision, it excepts cases of violence, and refers them to the medical examiner for certification. It thereby intimates that the simple fact that a man has died without medical supervision is not a sufficient reason for demanding a view; that it does not require or even permit the medical examiner to hold one.

"But nothing herein shall prevent any medical examiner from acting as such in any part of his county." This provision forms the concluding portion of the sixth section of the law to which we owe our official being. It is simply a negation, and conveys the idea that the medical examiner has full legal liberty to exercise his office throughout his county irrespective of the district lines originally established by commissioners. Without violating any statute a physician may render professional service to every patient who seeks it, yet there is a rule of etiquette, dictated by the sentiments of honor, justice and propriety, not to speak of the less worthy consideration of self-protection, which restrains the average medical man, and admonishes him not to interfere in work already assigned to another. This principle should guide the medical examiner in his conduct towards official neighbors. Human nature is tenacious of its lawful possessions, it is jealous and intolerant of seeming intrusion. Provoke collision and coöperation is at an end. The success of this new system will not attain the highest possible degree unless its essential instruments act in cordial harmony. We can give no better proof of our devotion to the cause which we have espoused, and to which the acceptance of our commissions has committed us, than by cultivating and maintaining among ourselves relations, not simply of mutual good-will and confidence, but of active friendship. We should adopt a policy which is rendered safe and simple by the exclusion of all doubts and questions as to propriety. Therefore I hold the opinion that a medical examiner should decline to hold a view outside of the district for which he has been appointed unless the medical examiner whose district he enters either requests to be relieved from duty in a particular instance, or is so situated that his services cannot be obtained within a period of

time which is reasonable when considered with reference to the necessities of a given case.

Practice is the acknowledged route to perfection, and the novitiate is terminated only by the exercise and action which constitute experience, and confer new ability. For his training and instruction, for the gratification of that sense which appreciates and enjoys the curious and the interesting, the medical examiner needs all the opportunity and all the material which his district can possibly furnish. He is defrauded and retarded in his official growth whenever that to which he alone has a claim is converted to the use and advantage of another.

The medical examiner required to be "learned in the science of medicine," must by a physician, and is under a double obligation to be of good repute. Even if his ideas of duty are less severe than those which have found expression here, his conduct should be regulated by those principles, a strict adherence to which has made the name of medicine so suggestive of intelligence, moral worth and public spirit.

Too Many Doctors. Efforts to Elevate the Standard of Medical Education.

A physician of Brooklyn was arrested recently for picking a lady's pocket in a street-car. He was found to be one of the numerous poor devils with M.D. attached to their names, who, to save their lives, cannot drum up a practice. Dr. Lamson, the English-American murderer, was driven to crime by his necessities. He could not earn his salt in the practice of medicine. There are hundreds of M.D's. in New York and Brooklyn who are almost starving to death. Many of them do not deserve to succeed. Many of the charlatans, quacks and incompetents fare badly, while others flourish finely right alongside well equipped and worthy professionals who can hardly keep soul and body together. Two facts have for years been painfully apparent to the profession in New York. The ranks are fearfully overcrowded, and the standard of competency is altogether too low.

The profession is now trying to remedy the latter evil, expecting that if the standard of medical education be elevated the evil of excessive numbers will be abated. Bills now before the New York legislature provide that the future graduates of all medical colleges, although holders of their several diplomas, shall be required to stand an approved examination subsequently, before one of several boards of examiners to be appointed by the regents of the University of New York. They prohibit persons from practicing medicine unless their diplomas issued by their medical colleges are reinforced by such a second diploma. They include other measures for elevating the standard of medical proficiency.

On Thirteenth street, between Second and Third avenues, just one block, I recently counted the signs of fifteen physicians. There is no trade or profession in New York that is more overcrowded than the ranks of the medical men. The doctors and surgeons who are making fortunes may be counted on one's fingers. Perhaps one in ten of the profession are earning first-rate livings. The great majority find their professional returns meager enough. Many of them could not live on the scanty doctor's fees they receive. They combine some other business with doctoring, or engage in some branch of the medical art outside the limits of legitimate practice. Not a few doctors' wives support the family by keeping boarders. I could mention the names of two or three men of fair medical attainments, who have so utterly failed to build up a desirable practice that they have moved into the neighborhood of cheap bawdy-houses for the purpose of securing the lowest sort of practice. There are a good many men, not recognized by the regular profession, who were originally ambitious to build up a legitimate practice, but whose adversities have so crushed and degraded them that they have become charlatans, quacks and [illegible], not so much by choice as from a grinding necessity to [illegible] by fraud if they cannot by fair means. [illegible] hundreds whose general attainments [illegible] and training is no better. [illegible] and able to impose on [illegible] people.

It is true that [illegible]

very poor encouragement for ninety-nine in a hundred medical students, for do what they will, in New York city at least, they never can get "up higher." The men who achieve great success there in medicine are men of marked individuality, who have qualities of mind and manner which raise them inevitably above the mass. They would have succeeded just as well in whatever other pursuit they had chosen to enlist their energies. Many of them had a terribly bitter struggle at first. One physician whose income is $60,000 per annum earned an average of less than $700 a year for the first three years of his practice. I think that his great success is due more to his knowledge of human nature and his splendid business ability than to his proficiency in medicine. But the majority of young medical graduates who go there full of hope and enthusiasm, totally ignorant of the fact that medicine is already overcrowded, confidently expecting a brilliant career, find the bitterest difficulties in the way of their progress. There are a good many of them who, after a few years' conflict with inexorably adverse circumstances, abandon the fight defeated, and return to industries which will at least put bread into their mouths.

The prominent physicians think that the establishment of examining boards, having a tendency to lift the standard of medical culture, will prevent many of these sad life histories, by increasing the difficulty of getting into the profession, and thus removing one of the temptations to the study of medicine by young men without preparatory training.

PROGRESS OF MEDICINE.

Variola.—Dr. J. T. Marcley, of Buffalo, wrote notes of twenty-one cases of small-pox, and thus summarizes some of their interesting and instructive features:

First, in regard to the occurrence of the different symptoms.

Chills were present in all cases, in some quite severe.

Headache of a more or less violent character was present in all.

Backache occurred in ten, but was violent in only one (hæmorrhagic).

Nausea was present in all; vomiting, in eleven; violent and long-continued in only one case.

The tongue was much coated in all cases, but was not the seat of much eruption, only in two.

Sore throat was complained of in eight, severe in only two.

Delirium was present in four, very violent only in the hæmorrhagic case.

Abdominal pain in one case.

Constipation was marked in all cases; convulsions occurred in only one case.

Itching was distressing in two or three only.

Conjunctivitis was present in four cases, severe in only one.

Pain in hands and feet was complained of in six cases, severe only in the hæmorrhagic.

Œdema of lower extremities was marked in only one case.

Loss of hair occurred only in one, to any extent.

Pulse, owing to the difficulty in getting at this symptom, on account of swelling, it was neglected.

In regard to the period at which the eruption appeared in those cases that I could follow closely, it varied from two to five days from the beginning of the initial fever.

The period of incubation was twelve days in seven cases, and in three, fourteen days.

In regard to vaccination, thirteen had been vaccinated, none, however, within a number of years. Eight had never been vaccinated. Of those vaccinated, the disease assumed the form of varioloid in five cases. Distinct in one, coherent in four, confluent in two, and hæmorrhagic in one case. Of those not vaccinated, distinct in one, confluent in six. One died before the eruption appeared. In only one case was there any history of a successful (or non-successful) re-vaccination. This one had the disease the lightest of any, only a dozen spots appearing.

Although these cases are few in number, they speak very strongly in favor of vaccination, and especially re-vaccination.

The treatment of these patients was very simple. Anodynes and cathartics, or rather, laxatives and stimulants, as required. Potass. chlorat. was found very good in the sore throat of this disease. Locally, I found nothing so agreeable to the patient as olive oil, and as far as preventing the pitting goes, I do not see but it proves as satisfactory as anything else.

The method followed in disinfection, was the burning of sulphur in tightly closed rooms, leaving them so for several hours, then thoroughly airing them; washing the floors, walls, ceilings, wood-work, and all wooden articles of furniture with a strong solution of carbolic acid, and by burning all cloth goods (bedding, curtains, carpets, etc.) that were in the least infected.—*Buffalo Medical and Surgical Journal.*

PRELIMINARY NOTICE OF THE COLLEGE FOR MEDICAL PRACTITIONERS, ST. LOUIS. Inaugurated, 1882.

Object: To teach Medical Practitioners, by practical instruction, the special branches of medicine and surgery.

There will be twelve departments, so arranged that special courses may be taken with as little loss of time as possible.

Full particulars with regard to the time that special courses may be taken, the kind of clinics, the terms etc., will soon be ready.

The following gentlemen have been elected to fill a part of the departments:

Thos. F. Rumbold, M. D.; Ewd. F. Borck, M. D.; W. Hutson Ford, M. D.; Wm. Dickinson, M. D.; W. B. Outten, M. D.; Col. Fred. T. Ledergerber, Att'y. at Law; C. H. Hughes, M. D.;

Others who have had especial advantages in their departments will be added:

For particulars, enquire of the Dean, Dr. Thos. F. Rumbold, 1225 Washington Ave.; or the Secretary, Dr. Edw. Borck. N. E. Cor. of Fourth and Market Sts. St. Louis, Mo.
March 21, 1882.

Items.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, January 1, 1881, to March 31, 1882.

Bailhache, P. H., Surgeon. To proceed to Richmond, Va., as inspector, January 31, 1882.

Vansant, John, Surgeon. Detailed as President Board of Survey, physical examination of officers of the Revenue Marine Service; March 18, 1882.

Wyman, Walter, Surgeon. When relieved by Surgeon Austin to proceed to Baltimore, Md., and assume charge of the service at that port; March 4, 1882.

Fessenden, C. S. D., Surgeon. To proceed to Greenport, Sag Harbor, New York, as inspector, January 26, 1882. Detailed as President Board of Survey for the physical examination of pilot, to meet at Boston, Mass., February 16, 1882; February 7, 1882.

Purviance, George, Surgeon. To proceed to Gloucester, Mass., to extend relief to shipwrecked seamen; January 12, 1882. Detailed as Recorder Board of Survey for the physical examination of pilot, to meet at Boston, Mass., February 16, 1882; February 7, 1882.

Austin, H. W., Surgeon. To proceed to Cincinnati, Ohio, and assume charge of the service at that port, relieving Surgeon Wyman; March 4, 1882.

Godfrey, John, Passed Assistant Surgeon. When relieved by Passed Assistant Surgeon Goldsborough, to proceed to New Orleans, La., and assume charge of the service of that port; March 4, 1882. Granted leave of absence for eight days; March 24, 1882

Irwin, Fairfax, Assistant Surgeon. Granted leave of absence for seven days; January 18, 1882.

O'Connor, F. J., Assistant Surgeon. To report to General Superintendent, L. S. S., for duty as member of board to examine keepers and crews of the Life Saving Service; January 4, 1882. Relieved on account of sickness, and directed to report to Surgeon in-charge, New York, N. Y., for temporary duty; January 18, 1882. To proceed to Detroit, Mich., and report for duty to the Surgeon-in-charge; February 9, 1882.

Banks, C. E., Assistant Surgeon. To proceed to Portland, Oregon, and assume charge of the service at that port; March 1, 1882.

Devan, S. C., Assistant Surgeon. Detailed as Recorder Board of Survey, physical examination of officer of the Revenue Marine Service; March 18, 1882.

Urquhart, F. M., Assistant Surgeon. To report to General Superintendent, L. S. S., for duty as member of board to examine keepers and crews of the Life Saving Service; January 18, 1882.

Kalloch, P. C., Assistant Surgeon. To proceed to New York, N. Y., for temporary duty; January 23, 1882.

RESIGNATION.

Hebersmith, Ernest. Resignation as Surgeon accepted, to take effect November 26, 1881; January 17, 1882.

PROMOTION.

Smith, Henry, Surgeon. Promoted and appointed Surgeon from January 20, 1882; January 20. 1882.

APPOINTMENT.

Kalloch, Parker C., M. D., of Pennsylvania, having passed successfully the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, January 23, 1882.

PROF. JOHN E. OWENS has resigned the chair of Orthopedic Surgery in Rush Medical College to accept the chair of Surgical Anatomy and Operative Surgery in Chicago Medical College.

THE RADICAL CURE OF CANCER. Announcement Concerning Essays upon this subject offered in competition for prizes.

The undersigned, who in October last, was delegated to receive competing essays on the subject of the radical cure of malignant disease, announces that three essays were presented. In the consideration of their merits the assistance of Dr. George B. Shattuck, Editor of the *Boston Medical and Surgical Journal* was invoked; and it has been decided that no essay is worthy of a prize.

The same subject namely *The Probability of the Discovery of a Cure of Malignant Disease, and the Line of Study or Experimentation likely to bring such a Cure to light*, is proposed for essays to be presented in competition not later than the first day of December, eighteen hundred and eighty-three (1883), to the undersigned, who, with such assistance as he may select, will be the judge of their merits.

For the best essay on the above subject a prize of ONE THOUSAND DOLLARS will be given, the right being reserved to withhold the prize in case no essay of sufficient merit be presented.

The sum above mentioned has already been deposited in the New England Trust Company, of Boston, subject to the call of the judges.

The essays must be legibly written in English, and neatly bound. Each one must bear a motto, and be accompanied by a sealed envleope bearing the same motto, and inclosing the name and address of the writer. They will all remain in the possession of the donor of the prize for convenience of reference, and the privilege is claimed to publish the successful one, with the name of the writer. No writer however, surrenders the privilege of retaining a copy of his essay, [illegible]lishing it.

The decision concernig th[illegible] the essays will be made chifley from a [illegible]ctical [illegible]hing the object of the donor of the [illegible] a search for a cure for canc[illegible]

For the don[illegible]

March, 1882.

PROF. D. W. GRAHAM has been elected Secretary of the Woman's Medical College. Prof. W. J. Maynard has resigned the chair of Therapeutics and accepted that of Dermatology and Venereal Diseases. Prof. Marie J. Mergler has been made Professor of Therapeutics, in addition to the chair of Materia Medica occupied by her.

PROF. F. L. WADSWORTH has resigned the Lectureship of Physiology in the spring course of Rush Medical College.

PROF. I. N. DANFORTH has resigned the Professorship of Pathology in Rush Medical College, and accepted a chair of Clinical Medicine in the Chicago Medical College.

DR. E. C. DUDLEY has accepted the chair of Medical and Surgical Diseases of Women and of Clinical Gynæcology in Chicago Medical College.

DR. WALTER HAY has accepted the chair of Materia Medica in Chicago Medical College.

DR. OSCAR C. DEWOLF has received the chair of State Medicine and Hygiene in Chicago Medical College.

DR. CHRISTIAN FENGER has accepted the chair of Pathology and Surgical Diseases of the Genito-Urinary Organs in Chicago Medical College.

DR. F. C. SCHAEFFER has been appointed Professor of Anatomy in Chicago Medical College.

DR. ROSWELL PARK has received the appointment to the Lectureship of Surgery in Rush Medical College.

DR. FRANK BILLINGS has been appointed Demonstrator of Anatomy in Chicago Medical College.

Dr. M. C. GREEN, of Chicago Medical College, has been made [illegible] Department of Nervous Diseases in St. Joseph's Hos[illegible]Chicago.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p.m., Gynæcological, Prof. Dudley.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics, by Profs. J. H. Hollister and R. N. Isham.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—2 p. m., Gynæcological, by Prof. Stevenson.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE

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VOL. XLIV.—JUNE, 1882.—No. 6.

Original Communications.

ARTICLE I.

THE DIFFERENTIAL DIAGNOSIS OF THE CAUSE OF SUDDEN UNCONSCIOUSNESS. By R. O. BEARD, M. D.

It is a matter of wonder that to a subject of such grave importance, as "The Differential Diagnosis of the Cause of Sudden Unconsciousness," so little distinctive attention has been paid, for though unconsciousness be but a *symptom* of diseased or perverted action, it is one of such vital consequence, often one of such imminent danger, that a fortunate or fatal issue frequently turns upon the pivot of the prompt diagnosis and intelligent care of the physician. Even granting that in any given case all idea of an immediately fatal tendency is eliminated,—supposing that the conditions point to nothing more serious than ordinary inebriation—it must not be forgotten that upon the doctor's diagnosis and the expression of his opinion may hinge not only his own reputation, but also the moral character of a, perhaps, hitherto innocent individual.

Mistakes of this nature have been made, even by reputable practitioners, and more than one victim has in consequence, suffered death in forced confinement, without care or treatment, and found vindication only in an autopsy which revealed an organic lesion as the cause, first of coma, and subsequently of decease.

The need of a careful study of the various causes productive of this phenomenon is thus prominent, because their differentiation is apt to be so obscure that physicians of undoubted ability have found themselves baffled.

In this paper I propose to consider only those conditions in which unconsciousness is of sudden occurrence, unattended by marked or continued prodromata, and sufficiently complete to render the patient incapable of furnishing subjective evidence or prior history. I shall endeavor to outline the distinctive symptoms observable in these cases and as the readiest means of studying these I shall append a summarized table which may prove of some diagnostic value.

The possibility of the co-existence of two or more diseases giving rise to this condition, or of the complication of disease with accident, or *vice versa* must always be born in mind. Apoplexy or sunstroke may supervene in a state of acute alcoholism; cerebral congestion or embolism may be accompanied by slight hæmorrhage. An apoplectic attack has been known to follow an epileptic seizure, and contusion, concussion and compression of the brain may be combined as results of severe injury.

Under the generic term of *Apoplexy*, a relic of the old-fashioned nomenclature, is grouped a class of cases almost involving coma, but with variations sufficiently distinct to indicate the differing seat and character of the causative lesion. These are, (1) cerebral congestion, (2) cerebral hæmorrhage and (3) meningeal hæmorrhage. In

CEREBRAL CONGESTION

unconsciousness is rarely of primary occurrence. It is usually preceded by general [illegible] symptoms, and only in occasional cases is the initial [illegible] congestion. Its distinctive features [illegible] followed but rarely, if ever [illegible] reaction, temperature [illegible] slow and

labored but lacking the stertor and peculiar expiratory puffing of the lips and cheeks observed in cerebral hæmorrhage, venous distention of the face and neck, and the comparatively rapid restoration of mental and muscular power.

This condition is not unfrequently superinduced by sunstroke or alcoholic stimulation, and if prolonged may end in serous effusion and death.

The existence or non-existence of hypertrophy of the heart, as an exciting cause, should be determined, and may serve as a valuable aid in diagnosis.

The opinion held by Trousseau that so-called apoplectiform congestion is always epileptic in character is certainly untenable, not only because many of the general symptoms are essentially different, but also because an epileptic attack in which coma is as prolonged as it is in many cases of cerebral congestion must constitute the graver form of the disease and must involve convulsions so pronounced as to render mistake impossible.

CEREBRAL HÆMORRHAGE

unlike the foregoing, is always marked by sudden unconsciousness. The probable age of the patient is a question valuable in diagnosis, as hæmorrhage rarely occurs before forty. The generally complete suspension of intellection, sensation, voluntary and reflex motion, the occurrence of true hemiplegia, the relaxation or paralysis of the sphincters, the stertorous and puffing character of the respiration, the varying temperature, the inequality and insensibility of the pupils, and the frequent lateral deviation of the eyes and head toward the non-paralyzed side, are its most important characteristics.

Those rare cases in which the *Pons Varolii* is the seat of hæmorrhage are most difficult of diagnosis, because the pupils are apt to be equally contracted, the respiration lacks the characteristic stertor, and paralysis is long delayed and often bi-facial. This condition is, in particular, closely simulated by opium narcosis.

MENINGEAL HÆMORRHAGE,

although of rare occurrence, is a distinct cause of sudden and profound coma. Its symptoms differ little from those of cerebral hæmorrhage.

piration. Consciousness is speedily restored on the application of the cold douche.

INSOLATION,

or sunstroke, although easy of recognition by means of the presence and prevalence of its exciting cause, is obscure in its pathology. It varies, of course, in duration and intensity. In certain cases cerebral hæmorrhage is induced, when paralysis and other symptoms proper to the latter appear.

The pulse always varies; the rapid and somewhat stertorous respiration is sometimes accompanied by a low moaning sound; the temperature ranges from 104° to 110° F.; the skin is peculiarly harsh and hot, and the pupils contracted and insensible. Vomiting and purging are dangerous symptoms.

URÆMIC POISONING

is a questionable cause of sudden unconsciousness, but certain cases are reported in which the usual prodromata are said to have passed unnoted, until the abrupt occurrence of convulsions and coma.

The convulsions are of the epileptiform type, and liable to remission. The presence of anasarca; the urinous odor of the breath; the dilated, indolent pupils; slow, stertorous respiration of a peculiarly labial character, distinguishable from the guttural sounds characteristic of cerebral hæmorrhage and compression; and the progressively falling temperature, reaching in some cases 91.5° F., furnish sufficient diagnostic evidence. If urinalysis is possible, the discovery of albumen and casts will settle the question of cause.

I cannot overlook the fact that a remarkable difference of opinion exists on the part of Professor Flint, as to the temperature of this condition. He claim[illegible] a marked elevation, sometimes ranging as high as 105° [illegible] observed in these cases. This statement is supported [illegible] Cyclopædia, where its explanation [illegible] epileptiform nature of the [illegible] high temperature of true epi[illegible] convulsions are not *epile*[illegible] difference in both ca[illegible]

Neither can the excessive muscular exertion thus induced be regarded as sufficient cause for this reported elevation. Considering the fact that all other toxic agents which induce coma, among which uræmic poison may properly be classed, invariably occur with *lower* temperature, the above statement appears still more doubtful. In the apparent absence of post-mortem facts to sustain the clinical evidence, I would venture to suggest the occasional occurrence of meningitis as a complication of uræmia, and a possible cause of high temperature, and hence of these conflicting observations.

ASPHXYIA

is properly ranked among comatose conditions of toxic origin, but is too familiar to need anything beyond mention in this connection.

It is well-defined as "a suspension of animation, due to the non-conversion of venous into arterial blood." The indications point to primary disturbance in the lungs rather than the brain.

ALCOHOLIC COMA

would appear, at first thought, to be of all forms of unconsciousness the most easily diagnosticated, and yet no other condition has been so fruitful of mistake, and of injury as the result of error.

A medical verdict of "intoxication" has too often consigned an innocent sufferer from far more serious ills to a course of treatment which involved either irretrievable physical mischief, or a form of moral injury equally impossible of repair.

The odor of alcohol thrown off by the lungs is a valuable aid to diagnosis, but even in the presence of this indisputable evidence of inebriation, it should be remembered that accident incurred while in a drunken state may cause concussion or compression of the brain, or that cerebral hæmorrhage may supervene in this condition. The absence of paralysis, the presence of a complete muscular relaxation and anæsthesia, and the state of the pulse, the respiration and the skin, are all worthy of note, but the condition of the temperature and the pupils furnish the most valuable and distinctive evidence. A low temperature, sometimes markedly low, is not absolutely peculiar to acute alcoholism, as opposed to other forms of unconsciousness, but in none, save that of uræmic poisoning, is there so frequent and so considerable a fall.

Dr. Wm. MacEwen, of Glasgow, Scotland, records a thermic test in fifty cases, noted under many varying circumstances, which shows a downward range of temperature from 97.9° to 93.4° F. These figures represent rectal temperatures, which, according to Wunderlich, should be reckoned from a half to one degree higher than in the axilla. It may therefore be stated that in alcoholic coma the temperature has a latitude of 5° below normal. The same observer claims the demonstration of an absolutely pathognomonic sign in the condition of the pupils, which, as far as my observation and inquiry have extended, has proved a reliable aid in the diagnosis of doubtful cases and the exclusion of any coincident injury or disease.

In alcololic coma *undisturbed*, he states that the pupils are *invariably contracted*, but that on the application of any external stimulus, sufficient to partially arouse the patient, they *at once dilate*, again relapsing into a contracted state as unconsciousness re-deepens. Dr. MacEwen reports the observation of fifty cases, of which number forty-eight answered perfectly to the test, contraction recurring in from five to thirty minutes after stimulation. The two exceptions to this rule proved, on subsequent inquiry, to have formerly suffered with disease of the iris, which had resulted in complete fixity of the pupils. Since the publication of these items I have endeavored, as opportunity offered, to test their accuracy, and in some eight cases I have noted, the behavior of the pupils has been in perfect accord with the facts stated. This alternation is, I believe, characteristic of no other comatose condition, and is therefore, if supported by further investigation, an invaluable diagnostic sign.

OPIUM NARCOSIS

is so rapidly fatal in its course that it especially demands prompt recognition. In the early stages of its action the patient can be momentarily aroused. The odor of opium on the breath can usually be detected. The complete muscular relaxation, the suppression of all secretions except that of the skin which is very profuse, the usually persistent vomiting, the markedly contracted and insensible pupils, and slightly reduced temperature, with other general symptoms, should be born in mind.

The symptoms attending the narcosis of other soporific poi-

sons are similar to the above. In the case of chloral, dilatation instead of contraction of the pupils is observed when poisoning results from the slow cumulative action of the drug.

In closing the discussion of these causes of sudden unconsciousness, let me refer briefly to those surgical conditions known as

CEREBRAL CONCUSSION, CONTUSION AND COMPRESSION.

Any attempt to differentiate their peculiar symptoms is necessarily limited by the fact that the occurrence of either of these distinctive forms of injury uncomplicated with one or both of the others is exceedingly rare. Indeed, Dr. Bryant explicitly stated that "consciousness and contusion of the brain are *always* associated in fatal cases," and the Reports of Guy's Hospital, London, for fifteen years, record "no case of death from concussion without change of brain structure."

Compression doubtless often happens alone. The possibility of an apoplectic or epileptic seizure occurring in a position likely to provoke a suspicion of accident, or even inducing a fall, should always be remembered.

Cerebral Concussion, pure and simple, is believed by many surgeons to be little more than a momentary disturbance, and certainly cases on record in which coma has persisted for hours or even days, can hardly be regarded as uncomplicated. The loss of consciousness resulting, is usually immediate and complete.

Cerebral Contusion, is defined to be "a sudden and violent attrition of the brain substance, attended with more or less laceration and effusion of blood," generally in the form of minute hæmorrhagic points. It does not necessarily involve injury, actual or apparent, to the calvaria. Its symptoms as apart from those of concussion and compression are not well differentiated.

Cerebral Compression, of traumatic origin, may depend upon the pressure of fragments of the outer or inner tables of the skull, or of a blood-clot formed beneath the seat of injury.

A short interval usually elapses between the infliction of the injury and the appearance of the profound unconsciousness which follows. The general identity of its symptoms with those attendant upon cerebral hæmorrhage in its idiopathic form, indicates that the results are substantially the same in the two cases.

For the general symptoms observable in these surgical cases, as well as in the other foregoing morbid conditions, I would refer to the summarized table appended to this sketch, which offers a readier means of rapid comparison than it would be possible to give in any other form.

It cannot but be observed that, in many cases, the means of differentiation we possess are at present very limited, and even those most clearly defined are often clouded by varying complications.

There only remains to allude briefly to the *modus operandi* of the causes which result in this general effect of unconsciousness, and on this important but obscure question I shall venture but a few simple suggestions.

The post-mortem evidence recorded throws but little light upon the working of these causes, but, applying the few facts thus obtained to the clinical history we possess, the indications seem to point strongly to *one* pathological condition necessary to the production of unconsciousness in any of its forms, viz.: a deficiency of arterial or oxygenated blood in the vessels of the brain. If this point be well taken, we have at once an explanation of the difficulty we meet in attempting to differentiate these conditions, in the fact that, though induced by exciting causes of widely varying nature, in many varying ways, and in greatly varying degree, the ultimate result, manifested in the loss of consciousness, is in each and all the same.

Thus, in syncope, probably the simplest form of unconsciousness, we find an anæmia of the cerebral cortex, whether caused by arrest of the general circulation, by profuse hæmorrhage from other parts, or by a chronic anæmic condition. In catalepsy and cerebral hysteria, the symptoms point to the same result, dependent upon deranged nervous function, probably manifesting itself through the vaso-motor system by inducing a tonic contraction of the cerebral arterioles. In concussion of the brain, the theory of vascular paralysis affecting the vessels of the cortical portion of the cerebrum and producing arterial anæmia, with consequent venous stasis, offers the best explanation of the phenomena observed; and seeing that we have no knowledge of the long continuance of such vascular paralysis, it accords well with the opinion that true concussion is but of short duration.

Insolation furnishes us with an instance of more complicated action, but it is probable, as Niemeyer observes, that the febrile condition of the blood, caused by the excessive heat and exposure, involves the loss of its oxygenating power.

Epilepsy has hitherto been very obscure in its pathology, but leading neurologists support the theory that the coma is due to general cerebral anæmia, while they refer the attendant convulsions to the excitation of a "convulsive center," by means of a local hyperæmia or congestion. This question doubtless requires further demonstration.

In the toxic conditions we have reviewed, we can distinctly trace the disturbance of cerebral function to the influence of the toxic agent, either directly upon the blood, as in uræmia and asphyxia; upon the heart and vessels through the agency of the nervous system, as in opium narcosis; or upon both, as in alcoholic intoxication.

By whatever mode of action, the results seem to be in each instance the same—that is, either the destruction or impairment of the oxygenating power of the blood, or an interference with the circulation in the cerebral substance.

In cerebral and meningeal hæmorrhage, and in traumatic compression, a similar end is reached by means of mere mechanical pressure.

Dr. Bryant observes that "unconsciousness in these cases, whether from injury or hæmorrhage, appears as soon as commencing intra-cerebral pressure impinges upon the capillaries of the cortex," and it is probable that it ensues even before that point is reached.

The rupture of an abscess into the brain substance has the same mechanical effect, and embolism, obstructing the cerebral arteries, induces partial pressure, and causes a more circumscribed anæmia, which, in its turn, accounts for the slighter and more transient symptoms.

The uncertainty which evidently surrounds this question in the minds of scientific observers, and leaves room for these imperfect suggestions, offers a wide field for patient investigation and research.

ARTICLE II.

BEMIS V. HAYES. By M. P. HATFIELD.

Mrs. Emeline A. Bemis v. Dr. P. S. Hayes. Action in trespass, for $10,000 *damages. Huszagh & Dunn for plaintiff. Heap & Mason for defendant.*

The history of the above case is so forcible an instance of the present legal status of the medical profession in Illinois, that it well deserves wider attention than it has yet obtained. The facts admitted by both parties to the suit are as follows:

Mrs. Bemis, a former patient of Dr. Hayes, applied to him for treatment July 15, 1879. She complained of frequent urination, headache, backache, bearing-down pains, and cessation of menses which she claimed had disappeared during her detention in the State Insane Asylum. A digital and speculum examination showed anteversion, subinvolution, and a left lateral laceration of the womb, for which Dr. Hayes used local and general treatment from July 15 to August 16—ten treatments in all—at the last of which he endeavored to replace the anteverted uterus by means of a rubber electrode used as a repositor. On the 17th, the next day, Mrs. Bemis rode some ten or twelve miles in a hack, and on the 19th suffered a miscarriage. On account of this Dr. Hayes was called on the 20th, removed a retained placenta, and after mutual recrimination, left her, telling her to summon another physician, if she needed further attention, as he would have nothing more to do with her, as she had willfully deceived him in reference to cohabitation with her husband.

After two years' unsuccessful efforts to compromise with Dr. Hayes, or to induce the district attorney to bring suit in her behalf, just before the case would have been barred by the statute of limitations, she at last found a lawyer who would undertake her case on the following counts, viz:

1st. Serious damages inflicted from a miscarriage brought about by Dr. Hayes' treatment.

2nd. Such treatment was the result of inexcusable ignorance on the part of Dr. Hayes, as Mrs. Bemis presented sufficient

proof of pregnancy (fourth month) to have contraindicated the treatment adopted, even if she had not called attention to the cessation of her menses.

3d. Still further injury inflicted by Dr. Hayes' unskillful treatment at the time of the miscarriage, and especially by his refusal to further attend her when she was in great peril from his malpractice.

Defendant's answers to these charges were:

1st. No proof that the miscarriage was produced by treatment rather than by long ride taken on subsequent day.

2nd. The treatment adopted was entirely proper, provided plaintiff's statements in regard to cohabitation with her husband were accepted as true; and there were no proofs of pregnancy except those otherwise explainable by the uterine lesions.

3d. No injury was inflicted by leaving plaintiff, as Dr. Hayes was entirely justified, under the circumstances, in doing, after the removal of the placenta; and that injury, if any, was done by her failing to summon another physician until the 25th.

The points at issue in this case were, first, in regard to the relative truthfulness of Bemis and Hayes in regard to statements made as to symptoms, menstruation, cohabitation, and subsequent statements; and second, as to the danger incurred in leaving a woman, after a four months' miscarriage, temporarily without medical care, and as to the ability of ordinarily skillful physicians to diagnose the existence of pregnancy of three and one-half or four months, in a case like Mrs. Bemis'.

The first of these questions is the only one that an ordinary jury is competent to pass an opinion upon without expert testimony. Drs. W. H. Byford, D. T. Nelson, J. Adams Allen, R. B. Treat, W. L. Marr, A. J. Baxter, C. C. Davis, J. S. Wickersham and P. S. Hayes were summoned as experts, and with remarkable uniformity testified that the treatment given to Mrs. Bemis was entirely proper, if she were not pregnant. That it was extremely difficult, if not impossible (except, by W. L. Marr, by methods which he would not reveal to the court) to certainly diagnose pregnancy before quickening, and that the subjective symptoms in Mrs. Bemis' case were referable to other

causes; and finally, that no serious injury was inflicted upon the plaintiff by leaving her as Dr. Hayes did.

Judge Williamson fairly charged the jury, that Mrs. Bemis' having paid, or failing to pay or promise to pay, in no wise debarred her from damages, if she had not received from the hands of Dr. Hayes such treatment as she ought from an ordinarily skillful physician; and, moreover, that damages, if any, ought to include recompense, not only for past and present injuries, but also for future disabilities arising from her present condition.

On the other hand, the present inquiry did not concern the general ability of the physician interested, but only the skill used at the times in question; but that if the treatment adopted was the result of untruthful statements made by the defendant, then she must be holden responsible for the results of such treatment.

With such instructions, a jury of medical men would have found a verdict for Dr. Hayes without leaving their seats; as it was, the jury disagreed. And why? Chiefly because, with the best of expert testimony, such a jury could not have the requisite knowledge for the just adjudication of such a case. A physician would hardly be willing to submit such a case to a jury of medical students; how much less to a jury who know absolutely nothing of medicine. A jury was originally made up of those who knew most about the case in question, but, according to the present system, one ignorant or bigoted juror can inflict a life-long injury upon the most upright practitioner. Cases like these are worse than "eating porridge with the devil" for the young physician, for he has everything to lose, and nothing but a heavy lawyer's bill to gain, with even the most favorable result. Take the present case, for instance. Mrs. Bemis' lawyers probably are poorer than if she had gained her case, but she is no whit the worse off than when she began. Dr. Hayes' account stands about as follows: *credits*—the satisfaction of having done a kindly deed to a supposed friendless charity patient; *debits*—two years' persecution and annoyance, loss of time and professional reputation, and several hundred dollars legal expenses; for all of which the law at present gives him absolutely no recompense. Any mali-

cious or designing patient, who can entrap a charitable physician into giving her his services may, on the flimsiest pretext, as in this case, bring an action in tort, or actually imprison the physician until the damages are paid in full.

And can there nothing be done to remedy this? Much, if there were concerted action on the part of the profession; but, as ever, everybody's business is nobody's, and the sufferer must look to his personal friends for assistance. Mrs. Bemis could not have brought suit for damages against the poorest saloon-keeper in Chicago, without finding that she had the whole liquor interest of the Northwest to contend against. It is the boast of Great Britain that the weakest one who bears the name of an English subject, is protected by the whole strength of England, and so it ought to be with our profession. Who will tell us how it can best be done?

EXTERNAL HÆMORRHOIDS.—Dr. Blaschko, of Berlin, recommends compresses soaked in a one per cent. solution of ergotin, to be applied hourly. Dr. Pasqua, of Florence, gives the following ointment as infallible.

Extr. of belladonna.....gr. v.
Iodoform.....
Acetate of lead... .....aa gr. i.
Petroleum jelly.....℥ i

Make into an ointment, to be applied three or four times a day.—*Druggists' Circular.*

PROLIFIC.—The 20th of December, 1881, I attended a lady of twenty years in her first confinement, who is next to the oldest of sixteen children (seven sons and nine daughters) ten of whom are still living. The father is now forty-one and the mother forty; both well and hearty. They were eighteen and nineteen respectively when married. All were single births and full term children. They live in New York State.—*A. H. Foster.*

Society Reports.

ARTICLE III.

AMERICAN MEDICAL ASSOCIATION. Thirty-third Annual Meeting, held in St. Paul, Minnesota, June 6, 7, 8 and 9, 1882. (Special Report to the CHICAGO MEDICAL JOURNAL AND EXAMINER.)

First day, Tuesday, June 6, 11 A. M. First Vice-President P. O. Hooper, M.D., in the Chair.

After prayer had been offered by Rt. Rev. Bishop John Ireland, Dr. A. J. Stone extended the greeting of the Northwest to the delegates and members of the American Medical Association, and introduced Gov. Hubbard.

The Governor welcomed the members of the society in the name of the State. "The people of Minnesota feel highly honored to find so many distinguished physicians in their midst," said he, and in extending their greetings, he would assure the Association that if the people of Minnesota had faults, theirs was not a lack of hospitality. While he regarded the delegates' visit as highly complimentary and advantageous to the place, he believed that they would not limit their time to the fulfillment of their duties, but that they would avail themselves of the opportunity to investigate the country, note the various characteristics—as the invigorating air and regenerating climate of Minnesota—and widen the reputation of its people on their return. Said the Governor, "We invite the brain and the muscle of the world to our country." However, it was not his duty on the present occasion to show the beauty of his State; "let the meeting be the means of elevating the proud profession which you represent."

Dr. Stone then introduced some of the prominent delegates present: Drs. L. A. Sayre, of New York; N. S. Davis, of Chicago; J. M. Toner, of Washington, etc.

Several protests had been sent from various State medical societies against the action lately taken by the New York State Medical Society in revising their code of ethics. A part of these were read by the chairman, when the protest was declared unanimous. These, together with protests against a few delegates being recognized, were referred to the judicial council. Letters from the President, Dr. Woodward, now in Europe; from Dr. Sam. D. Gross, of Philadelphia, and Dr. H. D. Holton, of Brattleboro, Vt., were read, expressing their regrets that they could not be present at this meeting.

Dr. P. O. Hooper, of Little Rock, Arkansas, Vice-President of the association, and acting President of the present meeting, next read his opening address.

After a few introductory remarks, he said that the society would strive to give every one the advantage of a free hearing, and free discussion. He returned thanks to the citizens of St. Paul for their hospitality, and said that the beauty of the country had surprised every one.

A generation had now passed away since the foundation of the American Medical Association. But though most of the founders were gone forever, a few remained, and there was one among those present who had been more concerned than any other in its foundation, and without whose efforts the present meeting had never been possible.

We could now throw a retrospective glance, and look over the harmony with which the Association had been maintained. In that long period of thirty-three years, superstitions had disappeared; science had pushed its investigations in every direction. Inventions of every description had been made; so that now continents were united together. Our homes were lighted by electricity; the oceans were the channels through which flowed the commerce of the world. Moral and mental philosophy had made great strides since the time of Newton, and greater rewards had been met by modern workers. Prophets are not now without honor in their country.

New theories had been formed, and new discoveries made. The testimony of the rocks, of the sea, and of the air had been brought to confirm them, and water, steam, and electricity had been made use of in a thousand manners. All this during the life-time of the Association. The latter's purposes, however, had been to cultivate medical knowledge and progress, and in those it had kept apace with the advance of sciences. It had been liberal in its discussions, and its portals had been freely open to the worthy.

Certainly the Association had been a powerful means of promoting various sciences, but it required time, labor, and united effort to carry it out.

When the Association was founded there was no code; the medical literature of the country was in its infancy; there were few books on medicine; but since, medical societies have been founded in every State, until the American Medical Association occupied a position, prominent not only among philosophical societies, but the grandest associations in the world.

The transactions published every year had been a steady record of progress. The Association had been a specially potent factor in raising the standard of medical education, through the American Association of Medical Colleges.

A great deal had been done also in the line of scientific discoveries and achievements, which result had been appreciated in Europe as well.

A special inquisitiveness had been the characteristic of its members. Their summons had been to conquer disease, and help mankind, and in that direction had not been surpassed by any other society.

The speaker sincerely hoped that the committee in charge of the New York State Society dissention would bring the matter to an amicable settlement.

Attention to public hygiene, and to the formation of State boards of health had been the special aim of the society, which also regarded the National Board of Health as a result of their repeated efforts.

An interesting fact had attracted the Vice-President's attention, and there should be no occasion for the excessive mortality from

small pox. Vaccination had been long recognized as an efficient means against that disease, and he was in favor of enforcing it on the people through the country. He was persuaded that the raging of variola was owing to neglect and ignorance on the part of some people.

There was the objection that such legislation interfered with personal rights. But personal rights were often interfered with, that is, whenever a greater benefit accrued to the community from such legislation.

Said the Vice-President: "We have, gentlemen, a Code of Medical Ethics in force in every State of the Union, and it was too late for any individual society to reject it. It was one of the results of the Association to have perfected that code, and one mistake would involve us in a world of inconsistencies, and no article should be thus tampered with.

A spirit of liberalism had always prevailed in the society, and he would not declare that no radical change would ever be inaugurated, but until such an arrangement appeared necessary to the society, we should go by the old rule. Of the twenty-three Presidents who had succeeded one another in the Association, only 13 were yet alive, and the last one, Dr. Hogden, of Philadelphia, lately deceased, had acquired a prominent place among the eminent men of his time.

"We, too, must soon yield our places to younger men," but they should know what weight will rest on their shoulders, and the Vice-President wished to be pardoned when he encouraged them to enter the field with *the zeal* of the founders of the Association. He recommended a jealous regard for the honor of the society, and a fit performance of the work fallen to their share.

A vote of thanks was returned by the members to the Vice-President, and his paper was referred for publication.

It was also resolved that the members of the Minnesota State Medical Society, then in session, should be made members of the American Association by invitation.

Then followed a reading of the names of delegates and mem bers present.

JUNE 6TH—AFTERNOON SESSION.

Section on State Medicine and Medical Jurisprudence. Dr. A. L. Gihon, U. S. N., chairman.

In answer to a circular from the chairman asking for information regarding medical progress, legislation, and vital statistics, reports had been forwarded from twenty two States. These reports contained a large amount of material which he had reviewed and extracted in order to present it to the members. It was laid on the table.

A communication from the Wayne County Medical Society, Indiana, was brought before the meeting. It proposed the supervision of "vaccine farms" by the National Board of Health. There seemed to have been a good deal of adulteration of the virus furnished to the trade, and death had resulted in a few cases where it was referred to the use of such impure lymph.

Dr. Haine believed that too much was asked of the general government that ought to be done by private effort. The fact that the National Board of Health would have the supervision of the vaccine farms was not a guaranty to the people that the virus would be pure. Perhaps a better plan would be to let the local Medical Societies undertake such overseeing. Or let the producers have their own supervisors, as some of them have already. Or let the producers form an association and pledge themselves to furnish reliable material. The members were divided between these resolutions, and the communication was laid on the table also.

SUICIDE IN THE CITY AND COUNTY OF PHILADELPHIA DURING THE PAST DECADE.

Dr. John G. Lee, coroner's physician of Philadelphia, read a paper with the above title. The subject had received a great deal of attention in Europe since the investigations made by Esquirol and others, but only a few authors had treated it in this country. That had been the incentive which led him to make the present researches, and he hoped that many others would accumulate statistics which would be of great value in the future.

From 1872 to 1881, inclusive, out of 12,936 cases of coroners' inquests in Philadelphia, there had been 636 suicides; 526

males and 110 females. However, these numbers were not entirely exact, for some cases of suicide must have been reported as accidental, and *vice versa*, obviously.

According to his observations, suicides increased in a locality as the population grew denser. As to color, they seemed infrequent in the black race; there being only eight cases in all. There were nearly five male to one female suicide.

The desire for self-destruction was not often manifest before the age of puberty. It was most frequent in males between the ages of thirty and forty, but in females between the ages of twenty and thirty.

In contravention to the results of European observers, he had found that suicide was not so common with the single as with the married; this the writer referred to the fact that in Philadelphia, people generally marry between the age of 20 and 25, while suicide is common at a much later age, as seen above. However, he would be guarded in his conclusions, as the material at hand was very incomplete, and he did not believe that any conclusion of real value could be formed from that. Weather records showed that a high temperature, with a low barometric pressure, were generally accompanied by an increase of self-destruction, which was also of greater frequency in the spring and the autumn. Deaths from all causes were more frequent in summer. It seemed that suicide sometimes followed a debauch, at the end of the month, after the victim had received his wages and spent them all at once; or in other cases, where many debts should have been paid. Of the number above stated, there had been 141 suicides by hanging; 122 by shooting; 96 by laudanum; 83 by cutting the throat; 57 by drowning; 27 by narcotic poisons; the rest had happened in a variety of ways. Of the 636 cases, 212 were born here; 241 in foreign countries; and 188 had not been ascertained. Hanging remained a very popular mode of death, perhaps from the supposed lack of suffering which it affords. Shooting was also a very common means in this country, where so many carry firearms. Drowning and hanging were especially frequent among the Irish, although suicides on the whole were not common among them.

Suicide, which used to be considered a crime, was not always

regarded as such since the rights of man had been declared. It has never been made a crime in Philadelphia. Two hundred and twenty-eight cases had been reported as caused by insanity; generally temporary aberration. No doubt Christian charity often dictated such verdicts, but more statistics are needed in this also. The causes leading to self-destruction must be various; temperament, sociological relations, and many others. It was far from being the truth that suicides generally depended on unsoundness of the mind, except if we grant what some specialists claim, that the majority of mankind are unsound in mind. But the impulse to suicide was often impetuous, though sometimes done with a rational purpose in view, as when the victim intended to leave a life insurance to his family in need. Although there were suicides in all classes of the community, poverty was a potent factor.

The suicides themselves were often anæmic and poorly fed, so that the occurrence was in ratio to the price of food. In the writer's opinion, suicide was not on the increase, everything considered. It was rather a wonder that it was not more frequent in these days of destruction and reconstruction of societies, with the roads behind us strewed with forgotten creeds and spurious dogmas.

Motions were carried to refer the paper to the Committee on Publication.

Section on Practical Medicine, Materia Medica, and Physiology. G. A. Octerlony, M.D, Louisville, Chairman.

HOME TREATMENT OF PULMONARY CONSUMPTION, by general and Local Antisepsis on the Basis of Strict Individualization.

Dr. J. Hilgard Tyndale said that phthisis consisted of a destructive process in the lungs themselves, and a general septicæmia. The treatment advocated by him consisted in a local antiseptic medication of the lung, and antiseptic treatment of the general lesions, and a reinforcing of the digestion and assimilation, in order to renew the blood of the patient. He believed in changing more or less frequently the antiseptic agent used, when it seemed to lack efficiency, and on the principle that changing remedies of the same class enhances their therapeutical value.

He also altered the mode of introducing drugs, in order to prevent a local irritation of the mucous membrane, and to increase the benefit of the medication also.

THERAPEUTIC ACTION OF CHLORATE OF POTASSIUM.

Dr. John V. Schoemaker, editor of the *Medical Bulletin*, of Philadelphia, read the above paper.

This powerful and energetic drug had been discovered about the end of the last century by Berthollet, and was used with the idea that it might transmit some of its oxygen to the system. It was at first recommended as a preventive of scurvy, and Chaussier proposed its use in croup. After the remedy had almost fallen into oblivion, it was reinstated by Dr. Blanche in 1847. Dr. Shoemaker had obtained marked benefits from its internal use in scrofulous skin diseases; Dr. M. Landesberg, of Philadelphia, had also reported good results from its application to epithelioma of the eyelids. As to its physiological action, the doctor remarked that its effects seemed to be largely due to the great amount of oxygen which it contained, and it was therefore looked upon as a potent agent in the treatment and cure of all diseases in which there was sub-oxidation, or a deficiency in nutrition, secretion, excretion, aëration, and molecular change. He believed that it acted in some hitherto unexplained manner, changing the character of the blood in disease, and overcoming pathological actions. Speaking of its local application, he said that the utility of solutions of this salt used as a gargle in the treatment and cure of mercurialism was universally admitted. He used it in the proportion of one drachm to a glassful of water, as a gargle in different varieties of stomatitis. Also in inflammation and ulceration of the throat. Sometimes it seemed more efficient when used alone, at others, in combination with astringents.

Used as a gargle, or applied with a brush, or by atomization, it had been beneficial in chronic catarrh of the larynx, and of the posterior nares. In diphtheria and in phthisis he used a gargle of one to two drams to eight ounces of water; of ten grains to the ounce, in subacute or chronic otorrhœa; of ℥j to Oj, in ozæna. An injection of ℥j to a quart in leucorrhœa often proved

beneficial. In gonorrhœa, gr. x to ℥j often produced an alterative action, and arrested the discharge.

It had been recommended in chronic dysentery for an injection, ℥j to ℥j. It was useful in chancroids, in solution, or dry; also in obstinate chronic ulceration, gangrenous sores, and pustular exzema. The greatest benefit experienced from its use, however, was obtained in diphtheria and croup, where it should be given in doses of from five to thirty grains three or four times daily.

In the marasmus of children small doses were useful. In anæmia, it improved the digestive tract.

In the eruptive fevers, scarlatina, measles, rotheln, and erysipelas, it brought out the eruption. It was most valuable in various diseases of the skin, ecthyma, boils, carbuncles, styes, pustular acne, eczema, sycosis. It lessens suppuration. It was also an efficient medicine in scurvy, influenza, yellow fever, rheumatism, cyanosis, hæmorrhagic diathesis, dropsy, syphilis, etc. When small doses were given they worked better before meals, large doses after.

Dr. Shoemaker generally began with small doses and increased them till its physiological action became manifest. The weak bear the largest doses. Paper was referred for publication.

Section on Surgery and Anatomy. Dr. W. A. Byrd, of Quincy, Ill., Chairman.

LAPAROTOMY,

By Dr. Wm. Hill, Bloomington, Ill. The chairman read this paper, the author being absent.

Dr. Hill believes that he was the first to inaugurate laparotomy. He had performed the operation in 1855 on a patient who showed obstruction of the bowels after eating unripe peaches. Anodynes, hot fomentations and cathartics had failed to relieve him, and on the third day a lump, the size of a hen's egg, appeared in the right iliac region. The case was diagnosticated an invagination of the ileum within the cœcum, necessitating surgical interference. Chloroform was administered, the peritoneum opened, and the occluding substance was pressed past the invagination. The wound was shut with hare-lip sutures, and united by first intention. A slight amount of peritonitis took place and the patient made a good recovery four weeks later. Since that time

the doctor had several times met other cases of that nature where the patient died; his proposals of interference had always met a strong opposition from the profession.

DISCUSSION.

Dr. Peck, of Davenport, related a case of the same kind. The patient was on the way to recovery.

Dr. Chas. Parkes said that three difficulties arose in such cases. First, the fear on the part of the surgeon to interfere with the peritoneum; second, the difficulty of localizing the site of the trouble; third, the difficulty in ascertaining the time to make the operation. He related the case of a boy who fell on a picket fence, his bowels being made to protrude, together with the peritoneum, from the points of entrance and exit of the picket. There was no rise in temperature, no peritonitis, and the patient made a good recovery.

A paper on Anchylosis of the Hip-Joint, by Dr. Charles C. F. Gay, was read, and one on A New Truss, to be Applied after the Radical Cure of Hernia, by Dr. Jos. H. Warren, of Boston.

Second day—Wednesday, June 7, 1882. 10 A. M.

Report of Committee of Arrangement.

Committee on Nominations consisted of the following:

Arkansas, Dr. L. J. Dibrell; Colorado, Dr. J. Hawes; California, Dr. Orme; Connecticut, Dr. W. E. Brownson; Dakota, Dr. S. B. McGlumphy; Dist. of Columbia, Dr. W. D. Marmion; Georgia, Dr. W. F. Holt; Illinois, Dr. T. F. Worrell; Indiana, Dr. W. Lomax; Iowa, Dr. T. J. Caldwell; Kansas, Dr. J. Bell; Kentucky, Dr. L. S. McMurtry; Louisiana, Dr. J. W. Dupree; Maryland, Dr. W. Lee; Michigan, Dr. F. Pratt; Massachusetts, Dr. M. C. Parker; Minnesota, Dr. W. W. Mayo; Maine, Dr. T. A. Foster; Missouri, Dr. A. J. Steele; Mississippi, Dr. H. A. Grant; Nebraska, Dr. L. J. Abbott; North Carolina, Dr. E. Grissom; New York, Dr. N. C. Husted; New Jersey, Dr. S. S. Clark; Ohio, Dr. J. C. Scott; Pennsylvania, Dr. X. Fricke; Rhode Island, Dr. A. Callon; Tennessee, Dr. J. B. Lindsley; Texas, Dr. U. N. Park; Virginia, Dr. F. D. Cunningham; Vermont, Dr. S. W. Thayer; Wisconsin, Dr. N. Senn; U S.

Army, Dr. Perrin; U. S. Navy, Dr. Jn. M. Brown; U. S. Marine Hospital, Dr. O. W. Miller.

Dr. J. H. Packard, of Philadelphia, read the report of the committee on journalizing the transactions of the American Medical Association, of which he was the chairman.

It had been calculated that the yearly expenses of such a journal would reach $13,000 or $15,000 yearly, while the income of the association, at most, did not exceed $6,000 yearly. It was proposed that members of the association paying $5 membership fee should receive a copy of the journal, which would be forwarded to outside subscribers for $6 a year. It was also proposed that all members of local societies be made members of the association. A revision of the by-laws, a few years ago, having stated that membership should not be forfeited for non-payment of dues till the third year, some members had supposed that all they needed was to pay $5 in three years; while it was $15. It was supposed that there were 90,000 practicing physicians in this country, of whom at least 50,000 must be regular. 3,000 subscribers would be all that was necessary to carry on the new journal. It might be published by some reliable publishers, and a salaried editor. The association would need a charter, which could be obtained from any State legislature. A board of nine trustees were proposed, to be renewed, one third, every year, by the association, to take care of that matter. An editor might be appointed by the association for an unlimited time, to be replaced only by a vote of three-fourths of the members. His salary might be fixed at $6,000 a year, this including the salary of sub-editors, which he would have permission to choose. It should be published in a central place, if possible, and its title would be *The Journal of the American Medical Association.* A circular might be sent immediately to every physician in the country, in order to find out how many subscribers could be secured.

The report was accepted, and a motion passed to have copies of it distributed to the delegates the next day.

Dr. Goodwillie's motion that members present, though not delegates, have t[illegible] to vote, provoked much discussion.

Dr. Beach, of [illegible] the passage of the amendment by acclamatio[illegible]

Dr. N. S. Davis said he did not wish to oppose the amendment if it was the desire of the majority of the delegates to pass it. He had attended all the meetings held in the past, though seldom in the quality of delegate. Every member present was expected to be a member of some local society, and, if not sent as delegate, must be represented through his society by some delegate. Would not the motion deter members from organizing and maintaining local societies, and cause the disintegration of those already existing? But the integrity and success of the American Association rested on the societies at home. Its organization had been the signal for all local societies to revive, since they were to be represented in it. The local must be in affiliation with the State, and the State with the National Association. For his own part, he had often given his privileges as delegate to some younger man. He considered that he voted through him.

The amendment was laid on the table.

Address by the chairman of Section on Practice of Medicine, Materia Medica, and Physiology. Dr. J. A. Octerlony, of Louisville, Ky.

The chairman said that labor, in medicine, had not been in a circle, but in progression. That it had advanced steadily with modern philosophy. New names had been invented to express new ideas which would not be understood by men who died twenty-five years ago. A short retrospective glance was sufficient to show what immense progress had taken place. Even in the middle of the eighteenth century measles were not discriminated from scarlet fever, Up to 1829, when Bright investigated diseases of the kidneys, nothing was known in that direction. Yet the literature he had written had only been the means to deeper researches and actual progress.

Before 1840, the very name of endocarditis was unknown. The valvular lesions, so apt to complicate acute rheumatism, had not yet been found. Exophthalmic goitre had been investigated first by Graves, of Dublin, in 1835, while it was not till 1855 that Dr. Addison discovered the pathological change which takes place in the supra-renal capsules in the dis-

ease called after him. A mere enumeration of single facts would fill up a volume.

Were one to pass in review the names of great men, it would be found that a great many had belonged to the medical profession. What the law of gravitation had done for astronomy and the law of chemical affinity for chemistry, he expected some discovery would soon happen which would do the same for medicine, in the near future. But a great deal of discrepancy existed in the profession, skepticism, which had invaded all departments of human knowledge was nowhere so marked as in medicine. It seemed strange to the human intellect that after heat, light, electricity and water had been made to serve man's desires, that he could not likewise conquer disease. But a lack of learning was not infrequent in physicians, and the number of failures among them were in ratio to their lack of knowledge. As yet we had to rely on clinical experience as our main means of curing disease. What we were able to do largely depended on what our predecessors had done; and the profession partook of the discoveries and honored a host of great unknown which had worked in its ranks. Genuine work was never lost. In reviewing the present state of medical sciences, the host of theories now brought out, though so often ephemeral, showed the activity of medical brains. Inflammation was presently regarded as almost a physiological action; a process of increased local nutrition, hastening repair. The pathology of the nervous system, so long a *terra incognita*, had now been explored, and the true nature of hyperæmia, of locomotor ataxia, and of other affections, been investigated.

It was exceedingly probably that before a long while, lesions of the brain would be as easily located as those of the heart. Phthisis was no longer regarded as an incurable disease. And its duration had been doubled under proper management, among which, pneumatic apparatuses, and especially a good training in youth, were most important. The formation of urea, it had been lately discovered, was connected with the liver, and that would throw light on enlargement and diseases of that organ. Washing the stomach was a very promising procedure. Renal pathology was also making rapid strides. Da Costa had lately traced the

origin of Bright's disease to lesion of the abdominal sympathetic.

The microscope had been of special benefit in many modern discoveries. The infectious diseases by its means had been traced to the actions of parasites. Thus Eklund, of Norway, had found that lepra depended on a micrococcus; the same was true of typhoid fever. Scarlatina also depended on a parasite, while H. C. Wood had found that diphtheria had a similar origin.

Malarial diseases had been shown by Tomassi Crudeli, in 1879, to depend on a vegetable parasite, which reproduced the disease when injected into the lower animals.

Helminthology was but a recent branch of medicine. It was only in 1860 that trichinæ were found to cause epidemics of a dreadful disease, and hydatids had been investigated in 1821 for the first time. Innumerable other discoveries could never have been made without microscopes. Contrasted with these, those physicians who practiced any exclusive dogma, all irregulars, had remained in absolute inertia. Not a single original communication had ever been made by them to anatomy, physiology, pathology, gynecology, chemistry, hygiene or surgery. He expected that, in the near future, medicine would be an exact science.

NO ADMITTANCE FOR NEW YORK DELEGATES.

In regard to the protest against the receiving of delegates from the New York State Medical Society, which was referred to us, the judicial council decide as follows:

Having carefully examined the code of ethics adopted by the New York State Medical Society at its annual meeting in February, 1882, as furnished us by the secretary of said society, the judicial council find in said code provisions essentially differing from and in conflict with the code of ethics of this association, and therefore, in accordance with provision of rule 9 of the by-laws of this association, decide unanimously that the said New York Society is not entitled to delegates in the American Medical Asssciation.

ADDRESS BY THE CHAIRMAN OF SECTION ON OBSTETRICS AND DISEASES OF WOMEN. By Dr. H. O. Marcy, of Boston.

A careful examination of uterine tumors with the microscope showed that they consisted of muscular fibers, and were properly

myoma, surrounded by connective tissue of a loose texture, but never much increased. This view agreed somewhat with that of Virchow, while Billroth speaks of them in this loose manner: "These tumors appear to the naked eye as connective tissue, but might be classed with myomata." (A number of admirable microscopical preparations were thrown on a screen, which showed sections of tumors in which the connective tissue was rare, and hardly any vessels were present in the interior of the tumors. A capsule had formed around all of them, which had grown to a certain size).

Dr. Marcy declared ergot of no benefit in most of those cases. He commented on Battey's operation, and, according to the results obtained by Tait, removal of the ovaries and the Fallopian tubes was a successful treatment of uterine fibroids, but the percentage of those who succumbed to the operation was large. It was not decided whether it would not be preferable to remove the tumor itself. Hæmorrhage was a frequent cause of danger, although the means to prevent it were numerous. The doctor exhibited a rubber cloth, to be tied around the pedicle of an abdominal tumor before cutting it away, thus facilitating the operation. In opening the abdominal cavity, he always observed antiseptic precautions, and all operators were agreed in this respect, though all did not use the spray. He did not approve of draining the abdominal cavity, because the peritoneum was a large absorbing sac, only a small portion of which was injured in the operation. He believed that soon removal of the uterus would be as easy and successful as ovariotomy. But he was persuaded that antiseptic surgery was as necessary in opening into the abdominal cavity, as in other operations outside the body.

The paper was referred for publication, with the desire that the illustrations would be reproduced in the Transactions.

Wednesday Afternoon.—Section on Surgery and Anatomy.

UNUNITED FRACTURE OF THE FEMUR, Treated by Exercise. By Dr. George W

Such cases wa more than one occurred in five hund physician might not come

twenty-nine years of age, broke the shaft of his femur after falling fifty-nine feet. He was placed under the care of an incompetent surgeon, who applied paste-board splints, and December 9, he came to Dr. Nesbitt with an ununited fracture, the limb being almost four inches shorter than the other. The general health was good. The patient in his fall had also broken both arms, which by this time had united. Attempts at reduction were made, extension and counter extension were secured, and a good deal of irritation excited. After six weeks of treatment no union had taken place. Crepitus had ceased from exudation. Feb. 2, 1878, the doctor cut open the fracture and perforated the fragments with bone drills in four places, and set the limb at rest. No union took place. Feb. 18th, iron braces were placed on the limb above and below the site of fracture, and the patient allowed to walk about, massage of the limb being practiced every day without any result. March 31 the physician drilled extensively, broke all the adhesions, and caused a good deal of inflammation to start at the site of the fracture. Nephritic colic set in, patient passed calculi, and the products of the inflammation meanwhile had been reabsorbed. July 25th, of the same year, no union having taken place yet, an elastic stocking was put on the leg, and a plaster-Paris dressing was applied, together with wire gauze, mixed, and extending the whole length of the thigh. The patient went about comfortably with this, and in November union had taken place and the patient was well.

The doctor highly recommended the use of wire gauze in connection with plaster of Paris in cases of delayed union. Following his advice, some other surgeons had tried it, and he reported several of their cases thus treated successfully. The dressing should be renewed in three or four weeks, as the muscles of the limb are liable to shrink in that period. In one case, an abscess had formed in the thigh, though the fracture had united.

DISCUSSION.

Dr. Keller, of Arkansas, called the attention of the members to the fact that these successful cases had not at first received proper treatment. That although plaster had been recommended so many times, it never took well with the profession, and a time

might come when surgeons would make themselves liable to be sued for malpractice for using it, on account of the great number of cases of gangrene thus caused.

Dr. Garcelon, of Maine, related a curious case of fracture of the femur in a man, who, after a short while, was dissatisfied with his medical attendant, and resolved to prosecute him for malpractice. The patient wrapped a piece of stiff leather about his limb, hunted up testimony, and appeared in court, when all traces of a fracture were gone.

Dr. Louis A. Sayre described his mode of applying plaster-Paris dressing, and related some wonderful cases. A great deal of care and tact were necessary, besides the assistance of a competent physician. He dressed compound fractures like the simple, and after drying, he cut a fenestrum in the bandage with a knife.

A case of comminuted fracture of the humerus, with extensive external injuries, had been dressed once by him and allowed to attend to his duties on the third day. In six weeks, union was perfect. The dressings had been made to extend around the chest and the opposite shoulder, in order to fix the broken arm. He remarked that in such cases, were the patient kept in bed, the physician ought not to demand a fee, but was responsible for the patient's loss of time. He had never had a case of non-union in private practice. Plaster-Paris bandage should be applied immediately after the injury, or else after swelling had subsided, but it should not be put on a swollen limb.

He had often put plaster dressing on fractured femur, and let the patient go about on crutches in a few days, though he would recommend care in such cases. The dressing should extend around the thigh and to the opposite side of the pelvis.

Dr. McLean, of Michigan, said that from the turn of the discussion, outsiders would be led to suppose that the attending physician was always responsible in cases of non-union. That was not really the case. In spite of the most skillful treatment some cases would not unite.

Dr. McLean, now presented a patient before the assembly, a girl twenty years old, who was born with a valvus over the left eye-brow. Two pulsating [illegible] grown at that point, ex

tending into the orbit. He invited experienced surgeons to examine the case and advise as to the propriety of ligating the common carotid.

An operation had been made for tying the blood vessel around the tumors, six years previous, without any result. Dr. McLean advised ligature of the common carotid. Dr. Moore advised extirpation of the tumor and tying the vessels. There was likely to be much hæmorrhage but that could be controlled. Dr. E. W. Lee, of Chicago, had had experience with such cases, and believed that ligature of the common carotid was a dagerous procedure. Dr. Byrd, of Quincy, Ill., advised galvano puncture of the aneurism.

Section on Practice of Medicine, Materia Medica and Physiology.

TREATMENT OF SYPHILIS with subcutaneous sublimate injections. By J. V. Shoemaker, of Philadelphia.

From the introduction of the hypodermic method of medication by Alex. Wood, of Edinburg, in 1853, it had made great progress. Three years ago, Dr. Shoemaker began treating all the syphilitic patients that presented themselve to the dispensary by hypodermic injections. A glass syringe was preferable in using mercurial injections; and he liked long needles, they were not so liable to cause abscesses. He also used a needle for each patient, to prevent contagion. He began with ten minims representing $\frac{1}{8}$ grain of sublimate. In strong subjects, he increased the dose gradually, by a minim every second or third day. He diminished the dose gradually after a while. In obstinate cases, he pushed the medication till constitutional symptoms manifested themselves. In very susceptible cases he began injecting a couple of minims at first. He had obtained the best results through such treatment. The parts which he usually chose for the injection were the infra-scapular and sacral region which are the least sensitive and are also supplied with a large quantity of subcutaneous cellular tissue in which to inject the solution.

In the 113 cases treated by him, there had been neither inflamation nor abscesses. This mode of medication was especially fitted to cases of impaired digestive system; and in this case it enabled the patient to take tonics internally.

Dr. Shoemaker believed that in cases where this medication had failed, it was owing to the carelessness or lack of ability on the part of the physician.

Section on Dentistry. Dr. D. H. Goodwillie, of New York, Chairman.

Dr. W. C. Barrett, of New York, related a case, and exhibited casts of the teeth, showing the persistance of heredity in dental developments.

Dr. J. S. Marshall, of Syracuse, N. Y., read a paper on the need of dental surgery in the U. S. Army and Navy. Soldiers on the frontier and sailors on a long cruise had no opportunity of receiving dental services. The treatment of fractures of the lower jaw by the ordinary surgeon was now the same as it was twenty-five years ago. The inter-dental splint, invented by Dr. J. V. Bean, of Georgia, during the civil war, and improved by Dr. N. Kingsley, of New York, was a great improvement in that respect.

A committee, consisting of Drs. Allport, Marshall and Williams was appointed, to confer with the Surgeon General of the army and navy, to the effect of providing these bodies with dental surgeons.

THIRD DAY.

June 8, 1882, 10 *A. M.*

Officers for the ensuing year:

President—Dr. John L. Atlee, Philadelphia.

First Vice-President—Dr. Eugene Grissom, North Carolina.

Second Vice-President—Dr. [illegible] Minnesota.

Third Vice-President—Dr. [illegible], Kentucky.

Fourth Vice-President—Dr. [illegible] California.

Treasurer—R. J. Dan[illegible]

Librarian—William [illegible]

MEMB[illegible]

Drs. N. S. Davis, Ill.; [illegible] Ohio; M. Sexton, Indiana; [illegible] Lee, Maryland; J. E. Rives, [illegible]

OFFICERS OF THE VARIOUS SECTIONS.

Practice of Medicine.—Dr. J. H. Hollister, Ill., chairman; Dr. J. G. Lee, Penn., secretary.

Surgery and Anatomy.—Dr. W. F. Peck, Iowa, chairman; Dr. Paul F. Eve, Tennessee, secretary.

Medical Jurisprudence and State Medicine.—Dr. Foster Pratt, Mich., chairman; Dr. Thomas L. Neal, Ohio, secretary.

Ophthalmology, Otology and Laryngology.—Dr. A. W. Calhoun, Georgia, chairman; Dr. Carl Seiler, secretary.

Diseases of Children.—Dr. R. Blount, Ind., chairman; Dr. J. H. Sears, Texas, secretary.

Dentistry.—Dr. D. H. Goodwillie, New York, chairman; Dr. T. W. Brophy, Ill., secretary.

Committee on Necrology.—Dr. J. M. Toner, D. C., chairman.

Committee on Publication.—Drs. W. B. Atkinson, chairman; Thomas M. Drysdale, W. Lee, Pennsylvania; R. J. Dunglison, Albert Fricke, S. D. Gross, Casper Wistar.

Assistant Secretary.—I. N. Hines, Cleveland, Ohio. The committee announced that Cleveland, Ohio, had been selected as the place of meeting for next year.

The president appointed the following committee to nominate a board of nine trustees: Drs. L. A. Sayres, New-York; J. M. Toner, District of Columbia; J. Foster Pratt, Michigan; R. J. Dunglison, Pennsylvania; Robert Battey, Georgia; W. F. Peck, Iowa; H. O. Marcy, Massachusetts.

Dr. N. S. Davis, read the following resolutions:

Whereas, It appears from the amended bill making appropriations for the army for 1882–83, as recommended by the military committee of the Senate, that the amount appropriated for the support of the army medical museum and library has been reduced from $10,000 to $5,000;

Resolved, first, That this Association views with great regret and strong disapproval this attempt to cripple two institutions whose great value is recognized by the medical profession of the United States, as well as of Europe.

Second, That in the case of the library, whose collection of medical journals required years of unceasing effort to bring it to

its present completeness, the intended reduction will be especially injurious, as from their transient character such publications would be in many instances irreplacable.

Third, That the publication now in progress of the index catalogue of the library, the most extensive work of the kind ever attempted, makes it desirable that its completeness should not be lessened by the withdrawal of means to procure current medical literature.

Fourth, That this Association express the earnest hope that Congress will restore the appropriation to its former amount, in the interests of the community at large.

These resolutions were adopted and a printed copy ordered to be sent to each member of Congress, and the heads of all the departments.

ADDRESS BY THE SECRETARY OF THE SECTION ON SURGERY AND ANATOMY—Excision of the Intestinal Canal where covered with Peritoneum, by Dr. Wm. A. Byrd, Quincy, Ill.

Successful cases of the removal of part of the intestines dated back but a few years. In most of the cases on record the patients had died. One reason was that the operation had generally been undertaken too late, after extensive adhesions had formed. The question as to the propriety of performing the operation would not be entertained now. It was too recent. But it was probable that a time would come when it would be reckoned a standard operation. Before Spencer Wells had had his success with ovariotomy, no one would call that operation a legitimate one. Resection of the digestive canal was indicated in cases of cancer, a disease which the late president Dr. Hogden, had already taught was a strictly local disease. In case of resection of the stomach, that organ should previously be washed daily with solution of salicylic acid for a few days.

Resection of part of the [illegible] canal was not followed by any impairment of the digesti[illegible]

In cases of [illegible] that part of the bowel that h[illegible] the two ends half brought toge[illegible] external wound, forming an a[illegible] only long should b[illegible]

This operation consisted in dissecting the skin around the artificial anus, invaginating it so as to transform the skin into a mucous membrane of the intestine, and returning it after union, into the abdomen.

He had operated on a case October 9, 1878, for strangulated hernia, and eight inches of gangrenous intestines had to be removed. A rapid recovery had taken place and in March, 1879, he operated to close the artificial anus successfully.

In January, 1882 he operated on a case of strangulated femoral hernia in which three inches of the intestine were removed. On account of the disadvantageous situation of the hernia, Dr. Byrd made a second opening two inches above the first, and above Poupart's ligament, to the edge of which he attached the two ends of the intestine, forming an artificial anus. April 13, he operated to close the artificial anus, and the patient had made a good recovery.

THURSDAY AFTERNOON.

Section on Surgery and Anatomy.

Contributions to the Surgery of the Liver; by Dr. Joseph Ranoshoff, Cincinnati, Ohio.

Operations to open abscesses of the liver were not recent achievements, but operations made in the manner to be described, had first been introduced by Dr. Marion Sims, of this country, in removing gall stones from the biliary ducts.

A precision of the diagnosis was not always necessary in order to operate. An early exploratory incision, made with ordinary care, was a legitimate procedure to make a sure diagnosis.

In dropsy of the gall bladder, aspiration of the fluid was sometimes an efficient means. But the disease was sometimes dependant on obstruction of the gall ducts from calculi.

Case I. Removal of calculi from the bile ducts. Patient J. R. K., a male, aged 76, had had dropsy for six months. His urine had the color of tar, he had lost fifty pounds in that time, his liver was enlarged two inches in diameter.

The gall bladder in that case was the size of the fist, hard and movable. The diagnosis was made of a gall stone, or cancer. No pain was experienced, which fact tended to exclude the latter.

The patient had suffered pain, however, five years previous. Having fixed the gall bladder by external pressure, the doctor introduced an aspiration needle which gave exit to thin bile. Passing a long needle in the direction of the bile duct, beneath the gall bladder, the needle struck a stone at a depth of four and a half inches, confirming his diagnosis; and that was, he believed, the first case on record in which a positive diagnosis of obstruction from a gall stone was made. It was decided to operate.

May third, the patient was anæsthetized, an incision four inches long, parallel to the median line was made. After the bleeding had been arrested, and the bowels, which protruded, been returned, one quart of ascitic fluid, mixed with bile, was removed, A firm concretion was now formed in the common duct, consisting of one small and two large calculi, which were removed. The omentum and intestine were cleansed with carbolized water, the gall bladder was fixed to the end of the outside incision, and morphine given.

The dressings were changed after twelve hours, after which the patient declined, and died thirty-six hours after the operation. No post-mortem was granted. One calculus weighed 138 grs., another 122.

Case II. A woman, æt. 32, had had a child five months previous to January 7th, 1882, during which period she lost flesh considerably. She had experienced a great deal of suffering. There were profuse night sweats; her temperature was from two to five degrees higher than normal. A smooth, round swelling, was felt in the epigastric region. An exploration was made, and January 10, 3½ pints of pus was evacuated. The pain and dyspnœa diminished, and after [illegible] felt improved. A large quantity of pus was [illegible] pools. But the abscess filled again. Feb. 22d, [illegible] and iodide of potassium [illegible] days it had re-filled, and [illegible] was decided upon. The temperature was 100, [illegible] to 150.

Operation.—After taking two [illegible] was administered ether. An incision [illegible] and two inches to the right of the median [illegible]

abdominal parietes, and the surface of the liver reached; the cutting was done with the galvano-cautery, which prevented all hæmorrhage. No adhesion had taken place, and the surface of the liver was attached to the abdominal walls with wire sutures. Three and one-half quarts of pus were now removed from the abscess, which was cleansed with a five per cent. solution of carbolic acid. Iodoform was dusted over the wound. Patient recovered slowly from the influence of the ether, and was administered morphine.

March 10, she was improving. The wound was dressed and the abscess washed. A constant stream of tepid water was passed in and out of the abscess for eight hours or more a day for two weeks. Alcoholic stimulants were given. The cavity was illuminated by reflected light from a laryngoscopic mirror, and several sloughs were removed from the bottom of the cavity, which the current of water could not wash out. Œdema of the lower extremities disappeared; as also the night-sweats and diarrhœa which had been previously present. The abscess grew smaller and smaller for three months, and the patient is now quite recovered. No aspiration here had been of any avail, and Dr. Ranoshoff had seen cases die from repeated aspirations.

In the light of the discoveries of modern abdominal surgery, it was manifest that abscesses of the liver should be treated by free incision.

By means of the thermo-cautery hæmorrhage was avoided. Listerism had not been resorted to in the last operation.

The Proper Points for Incision in the Drainage of Suppurating Knee-Joints. By Dr. E. Andrews, of Chicago.

Attempts at drainage of the knee-joint often proved unsatisfactory, owing to the difficulty experienced in introducing the drainage tubes. The anatomy of that joint was not considered in the text-books in a way to help the surgeon. There were three cavities in the knee; a lower cavity covering the head of the tibia, lapping backward and downward; another cavity in front of the head of the femur, which became well-marked when flexed if the knee was bent; and a cavity in the infra-patellar [illegible] The large bursa under the quadriceps extensor, for practical purposes present, communicated with these cavities,

and an abscess sometimes extended from the knee into the thigh.

When a general suppuration of all these cavities took place, it became indispensable to anæsthetize the patient and pass drainage tubes into each one, making two openings for each cavity. One opening was to be made on each side of the bursa referred to; one on either side of the patella; on either side of the condyles of the femur, and one on either side of the ligamentum patellæ. The knee should be kept bent while making the incision. As the lower and larger cavity was almost divided in two, it would sometimes be necessary to drain both halves separately.

DISCUSSION.

Dr. Joseph Ranashoff remarked that Dr. Byrd, in his paper on Excision of the Intestinal Canal where covered with Peritoneum, had brought out the new application of an old procedure to effect a result for which it had not been primarily intended. He converted the skin into a mucous membrane in invaginating an artificial anus, and it left the doubt in the doctor's mind, whether the skin, detached from its old blood supply, might not mortify, and endanger the life of the patient.

Dr. Prout did not recommend closure of an artificial anus. He did not think the operation justifiable, because extensive adhesions of the peritoneum had taken place.

Dr. Byrd said that in eighteen operations for strangulated hernia, he lost only one patient, and he always broke the adhesions met with. Nature could not always be trusted to. The safest plan was to be followed in such [illegible]

Dr. Ellis, of Michigan, related a [illegible] artificial anus which had opened spontaneously, and the [illegible] ately got well without surgical interference. A [illegible] of the bowel sloughed away, and the [illegible] discharge [illegible] place after two weeks.

Dr. Dora, of Illinois, said [illegible] of a woman in which a strang[illegible] artificial anus formed. No [illegible] natural anus since. That illustr[illegible] left to itself.

Section on Practice of Medicine,

Materia Medica and Physiology. Dr. John A. Octerlony, chairman.

Salicylate of Potassium and its use in Acute Rheumatism and Dyspepsia; by Dr. M. Donnelly.

An experience of two years and a half with the use of salicylate of potassium had proved to the author its usefulness in the treatment of acute rheumatism. He had previously used alkalies in the treatment of that disease, but although neutralizing the acids and restoring the blood to its normal alkalinity, they were slow in their action. When salicylic acid was introduced the profession gave it a fair trial, but large doses of that drug were required to insure an efficient result and its use was liable to cause heart complications. Salicylate of sodium was found to be a good preparation and superseded the latter, though it did not entirely prevent pericarditis and endocarditis. The drug being a neutral salt was not enough alkaline to correct the acidity of the blood.

This induced Dr. Donnelly to look for a more alkaline salt of salicylic acid, and upon experimenting he found that two parts of bicarbonate of potassium would mix with one of salicylic acid, and form an alkaline solution. This, upon crystalizing, formed the salicylate of potassium, which is soluble in two parts of water, and is rapidly absorbed. It relieved the pain of acute rheumatism in a few hours. The urine and perspiration became alkaline after a few hours, sometimes after a few days. The metastatic character of rheumatism disappears, and the recovery is rapid.

To prevent relapse, the author gave the tartrate of iron and potassium which restored the blood to a normal condition. As to the causes of rheumatism, the profession were agreed that abnormal digestive secretions took a prominent part, the result being the formation of lactic acid in the blood.

Salicylate of potassium was most valuable in the treatment of [illegible]dence, pyrosis and loss of appetite, and any form of dyspepsia [illegible]dity. It was preferable to the bitter tonics in such cases.

A. Octerlony said that the salicylate of sodium or of [illegible]were especially indicated in recent and very acute

cases of rheumatism accompanied with fever. In obese cases the alkalies was more efficient, in sthenic cases, aconite and veratrum viride gave the most rapid and satifactory results.. In the anæmic, he preferred large doses of the muriate tincture of iron.

Section on State Medicine.

Rights of the Insane. By Dr. C. H. Hughes, St. Louis.

Dr. Hughes arrived at the following conclusions as to the rights of the insane:

I. A right to a medical inquiry, by medical men and by medical methods, into the character of their disease. They should have the benefit of a careful diagnosis by competent men accustomed to making such inquiry.

II. The right to judicial rulings on their behalf when put on trial, in accordance with medical science and not according to the judicial conception of insanity.

III. The insane should be protected from themselves and the consequences of their malady, and the State must provide asylums for them. The insane should be prohibited from marriage, for the sake of the unborn. Better not be born at all than be born insane. The State should annul all marriages with the insane so far as is consistent with public morals and the sacred marriage tie.

FOURTH DAY.

Friday, June 9, 1882, 10 *A. M.*

Prayer by Rev. E. D. Neill.

Librarian's Report.—There had been added since the last report 167 distinct titles, exclusive of yearly volumes of transactions of societies, reports of hospitals, boards of health, and volumes of medical journals. The library consists at present of 1,702 distinct titles, or about 4,448 volumes, including pamphlets. The Boston Medical Library Association had generously placed a large number of its duplicat[illegible] at the disposal of the library.

The treasurer [illegible] of Philadelphia, reported a bal[illegible] also explained that ev[illegible] Asso-

ciation as delegate for a medical society, should thenceforth be a permanent member of the American Medical Association who should annually pay five dollars to the treasurer.

The following resolution, presented by Dr. A. L. Gihon, U. S. A. was passed:

Resolved, That it is the sense of the American Medical Association that it will be conducing to justice and the dignity of the profession that medical expert testimony shall be given without having the appearance of being in behalf of either side, but to be stated simply as facts.

The following resolution, by Mr. Dennison, of Colorado, was also adopted:

Resolved, That no action of this Association, either in its code or its annual meetings, shall be construed to commit members of the American Medical Association to the adherence of any dogma, and members should have a care not to allow their names to be erroneously registered as allopathists, etc., in State and city registration of physicians.

One thousand dollars were ordered paid the secretary, subject to the condition of the treasury.

The recommendation was made by Dr. N. S. Davis, that every other annual meeting of the Association be held in Washington.

The trustees of the proposed journal are the following:

For three years—Drs. N. S. Davis, Chicago; Moore, New York; and Toner, Washington.

For two years—Drs. Campbell, Georgia; Packard, Pennsylvania; and Connor, Michigan.

For one year—Drs. Hooper, Arkansas; Garcelon, Maine; and McMurtry, Kentucky.

Delegates to foreign societies—Drs. T. A. Emmett, D. Lewis, Wm. Carpenter and E. M. Brush, New York; and J. M. Da Costa, Pennsylvania.

Followed the address of Dr. John L. Atlee, the President-elect, and the meeting adjourned.

SKETCHES OF THE VARIOUS OFFICERS.

JOHN LIGHT ATLEE was born in Lancaster, Pa., where he resides, November 2, 1799. Graduated in 1820 from the

medical department of the University of Pennsylvania. He was elected one of the vice-presidents of the American Medical Association in 1868; was for some time professor of anatomy in Franklin and Marshall colleges. He revived the operation of ovariotomy in 1843, and was the first to successfully remove both ovaries at one operation.

EUGENE GRISSOM, of Raleigh, N. C., was born in Granville county, May 8, 1831. Graduated from the University of Pennsylvania in 1838. Was elected to his present superintendence of the insane at Raleigh, in 1868. He holds the degree of LL.D. from Rutherford College.

JOHN A. OCTERLONY is a resident of Louisville, Ky. Born in Sweden in 1838, he graduated from the University of New York in 1861. Has been lecturer on chemical medicine in the University of Louisville, and is now professor of practice in the Kentucky School of Medicine.

ALEXANDER J. STONE. Born in 1845, at Wiscasset, Me. Graduated from the Berkshire Medical College, at Pittsfield, Mass., in 1868. Settled in St. Paul in 1870. Founder of the St. Paul Medical College, he holds the chair of Diseases of Women in that institution, at present known as the Minneapolis College Hospital.

HENRY S. ORME, of Los Angeles, Cal., was born in Milledgville, Ga., 1837. Graduated from [illegible] University in 1858, and from the New York Univer[illegible]

R. J. DUNGLISON. Born in 1834; [illegible] from Jefferson College. Edited Dun[illegible] 1874. Has been assistant secretary [illegible] Congress.

J. M. TONER, of Wash[illegible] 1825, and graduated from Jeffer[illegible] of the "Toner Lectures."

N. S. DAVIS, LL.D., of Chi[illegible] of Physicians and Surgeons of th[illegible] in 1837; is editor of the CHICAGO [illegible] AMINER, professor of Practice in th[illegible] Fellow of the Chicago Academy of Sci[illegible] through his medical writings.

W. B. ATKINSON, of Philadelphia, was born in Haverford, Pa., 1832. Graduated from Jefferson Medical College in 1853, he became Permanent Secretary in 1864. Well-known as the author of a Biographical Dictionary of American Physicians and Surgeons.

ISAAC N. HINES, of Cleveland, O., was born at Shippensburg, Pa., 1834. Graduated from the New York Medical College of Physicians and Surgeons. He is professor of physiology and pathological histology in Cleveland Medical College.

ARTICLE IV.

A CONTRIBUTION TO THE REPORT OF THE COMMITTEE ON Medical LEGISLATION. (Read before the Illinois State Medical Society at Quincy, May, 1882). By E. INGALS M. D. Chicago.

That the paramount interests of civilized life require the fostering and protecting care of law, has been fully established by the aggregate experience of mankind, and certainly few things can be of greater importance to the human race than those that conserve its sanitary interests; and this, whether the subject is viewed in the light of the individual and family, or of the public good. A large percentage of the sickness that is suffered—and this not alone by the ignorant and indigent, but by the wealthy and intelligent as well—is preventable. Though centers of infection are apt to be first developed amid squalid surroundings, diseases thus engendered often escape from their place of origin to invade precincts that would otherwise have remained exempt. Ignorance of sanitary laws, or inattention to their observance is, however, by [illegible] limited to the poorer classes.

[illegible] as is possible, protection against all deleterious agencies, [illegible] to which every citizen is entitled from organized so[illegible] government should make the poisioning of the essentials [illegible] with a penal offense, and it should insure that those [illegible] sioned, under its laws, to the practice of medicine, [illegible] well qualified for the proper discharge of the

duties of their office. Our commerce, manufactures, agriculture, and common schools, are all regulated to some extent, by laws enacted in the supposed interests of the people.

We have also made some effort to promote the san-itary good of society, in the same manner, for in 1877 the legislature of Illinois passed a law to regulate the practice of medicine, and another to establish a State Board of Health. Hopes were entertained that great good would come from these enactments; especially as it was believed that their influence would increase the efficiency of the medical profession. These laws have now been in operation long enough to test their capacity to accomplish the purposes for which they were placed among our statutes, and our hopes have hardly been realized.

From a careful observation of the effects of these laws ever since they have been in force, I cannot see wherein they have done more than to secure a somewhat imperfect registration of the doctors and midwives of the State, and satisfactory mortuary returns. In spite of them, quacks practice with impunity, the same as before; revoking the license of a well known practitioner, who under the convenient disguise of an alias is guilty of the most unprofessional acts, does not prevent him from continuing his vocation; infectious diseases are not generally reported, and the returns of births are so incomplete that we might better make no pretense of collecting any such statistics. Our sanitary laws are not sufficiently explicit and comprehensive; they are not stringent enough; in some particulars they are obscure and they do not contain proper provisions for their enforcement. Increased security against the dangers of small pox should be insured by providing for a more complete system of vaccination; by enacting severe penalties for secreting such cases, and by prohibiting or regulating their transportation from place to place. The placing of warning cards to indicate the location of diseases that are infectious and highly dangereous, should be made compulsory, and public funerals in such cases should be prohibited by specific enactment.

Infected premises should be inspected by an official appointed for the purpose, who b[illegible]ith authority, should be required to cause the [illegible]itary conditions inci-

dent to the construction and surroundings of the place. These are only a few hints and suggestions of what might be embraced in the scope of the law.

Some legal means should also be taken to improve the character and increase the usefulness, of the medical profession. On this subject I wish not to be misunderstood. No one is more conscious than I am that the excellence of the medical profession, as represented by its most intelligent members, was never before as high as it is now, and it is every day improving. But while this is true, the facts we meet when we consider the other extreme of the profession are such as should stimulate us to an earnest effort for their removal. Two bodies cannot occupy the same place at the same time; and if the law should rule out incompetent applicants from the profession, the places from which they are excluded would be filled by those who are fitted to occupy them; but if the incompetent are once admitted, they can only be deprived of business by the competition of those who are more capable and better instructed, and the decision between them must be made by the tribunal of the general public, which does not possess qualifications properly to determine such a question.

I believe the standing and worth of the profession would be advanced, by the establishment of a State Board of Examiners, before which all who desire to practice in the State, and who should not already have been registered should go, for examination, and only to be allowed to practice after they had received a certificate of competency from such board. This board should be prohibited from granting license to practice to all who are not graduates from some medical college in good standing, and this good standing of any medical college should be determined by the legal requirement that it should exact of students certain literary and scientific qualifications, to be prescribed by the law, and four years study of medicine, and not less than three annual courses of college instruction, of not less than six months each, for graduation. This would not prejudice the interests of our medical colleges, but would place them all on the same basis, and lead to a generous and laudable rivalry between them as to which should give the best instruction, and this question would be determined by an impartial tribunal. Were such a plan adopted it would im-

pose no hardship on our medical teachers, for they would receive the same rate for teaching as they now do, and if they were required to give more instruction they would be paid proportionately more for it. But should this not be the case, it would be no valid argument against the proposition; for so trifling a matter as the pecuniary interests of a few medical teachers should not be permitted to dominate the best interests of the whole people.

If the medical diploma is to continue to be allowed to confer on its possessor the right to practice medicine in Illinois, great discrimination should be exercised in bestowing it. At present the facility with which it may be obtained diminishes its value.

Though our State has made a great advance in numbers and wealth, our students have abundant means, and leisure for prolonged study, we continue in our requirements for ingress to the profession to follow the practices of a primitive state of society and suitable only for it. The time and money necessarily expended in gaining admission to the profession under the plan proposed would be increased but the physician's rewards would be greater after the admission was gained. Fifteen years of practice after thorough preparation is better for the physician than twenty years with an indifferent preparation, while the gain to society is much greater than to the physician.

Should Illinois do this, the schools of other States would be obliged to follow our advance, or we should educate all of our own practitioners, and while our graduates would occupy the entire field in Illinois, they would be preferred in other States, because they had received their medical education under a more thorough system of instruction.

It is well known that graduates from our medical schools who go before the army and naval boards for admission to the public service usually make special preparation for the examination, and yet, above eighty per cent. of such applicants are now being rejected. Surely no one will claim that citizens merit less skillful medical attendance than the soldiers and sailors of our army and navy. The excellent qualifications of recent graduates who present themselves for examination before our hospital boards for appointment as internes in these institutions is a subject of common remark. These places are coveted, and it is known that superior

attainments are necessary in order to secure them, and the class of students who may indulge some hope of gaining them, work for them from the time they commence their medical studies. If there were fifty such places where there is now but one, there would still be no lack of well qualified graduates to fill them.

Raising the requirements of practitioners of medicine in Illinois would result in no void in the profession. It would only compel a certain number of persons to follow useful vocations outside of the profession, whose labors in the profession can be spared with mutual benefit to themselves and the public.

An easy and entirely practicable auxiliary for improving the character of the profession in Illinois, would be the establishment in some large city of the State, of a medical and dental department of the Illinois Industrial University which is located at Urbana. Illinois has been generous—as she should continue to be—with the charities. She provides liberally for the insane, the blind, the deaf, the feeble minded, and the convicts in her penal institutions. Would it not be just, wise, and politic, to exercise equal liberality towards the class of normal healthy minds that by higher cultivation would gain added powers of usefulness for the public good? The University at Ann Arbor, so far from having been a burden to Michigan, has doubtless been the means of increasing her wealth and numbers to a degree that would have made its founding and support an act of wisdom, if viewed only in the light of the State's material interest. If Michigan had never established this University her rank would be less advanced than it is at present among her sister States. But it is unfortunate that the medical department of the University had not been located at Detroit, for all medical schools, for obvious reasons, should be in large cities.

Illinois will have six or eight millions of people, who will possess an amount of wealth that we at present little realize, and we have greater cause for solicitude about our future moral and intellectual condition than for what pertains to our material interests. We should provide for a University that would in time take rank with any in the world. Such an institution would be of incalculable benefit, and would stamp its impress on our entire people.

The world is familiar with Dartmouth, Cambridge, New Haven,

and Ann Arbor in America, with Oxford, Cambridge, Heidelburg, Göttingen, and many other cities of the old world; chiefly because they have been the seats of learning of superior excellence. If the Illinois Industrial University had a medical department, through this it might fix the standard of medical education for the State, for all the schools would necessarily advance their requirements until they would be recognized under the statutes by the board of examiners; because no school would be willing to issue diplomas that would not entitle their possessors to such an examination. The expense of such a department to the State need be nothing beyond the original plant, as fees from students, no higher than are now charged by other schools, would pay teachers of the first rank, meet all incidental expenses, and furnish it munificently with every means of teaching and illustration; and should it acquire the public confidence and sympathy by establishing and maintaining a high grade of excellence it would doubtless become the recipient of generous private endowments, as the medical departments of Harvard, and of the University of Pennsylvania have from a like cause.

A single appropriation by the State of one hundred thousand dollars, to be expended in building and equipping the institution, would be all that would be required to establish and maintain a medical department of our University that should be a credit to any State, for the school once in operation would provide abundantly for its every want from the fees of students. We annually graduate a larger number of medical students than we ought. The adoption of the recommendations we have offered would tend to decrease the number and improve the quality of those receiving the degree.

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Foreign Correspondence.

ARTICLE V.

VIENNA, MAY 2, 1882.

EDITORS MEDICAL JOURNAL AND EXAMINER:—The topic of the month has been the demonstration by Dr. Robert Koch, before the Physiological Society in Berlin, of bacilli, which he asserts, after a series of observations and experiments extending over some two years, to be the direct exciting cause of phthisis and tuberculosis. His statements may be summarized as follows:

Tuberculosis, in the most comprehensive sense of the term, including miliary tuberculosis, cheesy pneumonia, etc., is a parasitic disease, induced by a bacillus similar to that of lepra. By means of special staining methods (first with methylviolet and then vesuvin) Koch always detected the characteristic motionless rods, especially in places where the process was most recent; the rods were less numerous around the giant-cells. He succeeded, moreover, in cultivating the bacillus, quite free from all admixtures, in blood-serum and gelatine. It grows very slowly, and only under a temperature between 30 and 40 degrees Cent.

From these artificially cultivated bacilli (the cultivation extended over some six months, with constant transfer to fresh glasses) he inoculated a large number of animals—guinea-pigs, rabbits, rats, dogs—sometimes by means of simple incision in the skin; sometimes in the anterior chamber of the eye, sometimes by injection into the circulation. The result was almost invariably the production of acute tuberculosis—in many cases, further, the induction of cheesy transformations of tubercle. A number of specimens were demonstrated.

The alleged discovery of the tubercle parasite is by no means a novelty. Some time ago Aufrecht announced that he had seen them, and Klebs, who seems to have a mania for such things, was even earlier in the field; but these isolated observations, unsupported by experimental or other evidence, were classed with the numerous similar "discoveries" of pathogenic bacteria, in which recent literature abounds. Koch's researches, however, are so extensive and accurate, so thorough and convincing, and his previous investigations in the same direction have been so admirable, that his statements cannot be ignored, and we may expect that the question will now receive thorough investigation by competent hands.

It is a little amusing that Baumgarten, in Königsberg, a few days after Koch's demonstration in Berlin, published the discovery of bacteria in tuberculosis artificially produced in rabbits—a discovery made several weeks before Koch's publication. His methods were entirely different from Koch's, and a little comparative investigation showed that Baumgarten's bacteria were entirely distinct in size and shape from Koch's. Moreover, both Baumgarten and Koch refuse most decidedly to allow any relationship between their bacteria and the stuff which Klebs, Schueller and Aufrecht regarded as the parasitic agent in tuberculosis. Up to date there are, therefore, at least three entries for the tuberculosis handicap, with large odds on Koch's parasites against the field.

At the recent Congress of Germ[illegible] at Wiesbaden, Koch's address (essentially the s[illegible] called forth an animated discussion. Aufrecht, of M[illegible] remarked that the question of tuberculosis as infectio[illegible] considered as definitely settled by this disc[illegible] a definite solution was [illegible], social and [illegible] must continue to play an important part in [illegible] the etiology of the disease. Seitz, of Munich, [illegible] opposed to the unconditional infection theory. "I [illegible] that tuberculosis is an infectious disease due to the [illegible] bacteria, is by no means so good an explanation of [illegible] phenomena as the older view as to [illegible] shall we explain the unquestioned hereditary [illegible]

how the "phthisical habit" which so often heralds the coming consumption? There must be assumed, not simply an infection, but also such constitutional conditions as favor the development of the infecting material. Rühle, of Bonn, emphasized the fact that phthisis and tuberculosis are by no means to be regarded as identical. That phthisis induces tuberculosis is proven, but it remains to be demonstrated that tuberculosis bears a causal relation to phthisis.

Jürgensen (Tübingen) was favorably disposed toward Koch's views. His experience in a region comparatively free from tuberculosis has led him to believe that a bronchial mucous membrane, in a catarrhal condition in consequence of enfeebled heart's action (in old people generally, and in children with catarrhal pneumonia) was a by no means favorable soil for the reception of the tubercle parasite. Klebs, of Zürich, adopted Koch's views, of course; he expressed the hope that the question of heredity (whether, namely, the transmission occurs directly from mother to fœtus, or after birth, by means of the milk) will soon be thoroughly studied.

Bagnisky, of Berlin, thinks that the question raised by Seitz and Rühle was solved by observations on children; that the identity of phthisis and tuberculosis was not to be ignored; the variability in the phenomena of the two depends upon the nature of the soil infected. It is well known that little children rarely exhibit phthisis in characteristic form; they become tuberculous. The explanation is that the child's lung, thanks to the relatively greater strength of the right heart in early life, is far more succulent than in more advanced years; for in adult life, the left heart so far excels the right in power, that the lung is less succulent; hence the same infectious material can induce different pathological conditions at different periods in life, or in different individuals of the same age.

The iodoform war continues without abatement. One of the [illegible] among the numerous assailants is Kocher, of Bern, [illegible] that the use of iodoform should be forbidden, in the [illegible] public safety, either by sanitary authorities or by the [illegible]. He says, moreover, that the subnitrate of bis[illegible] all the good results claimed for iodoform, and

is at the same time cheaper and odorless. He promises a detailed account of his experience with this substance at some time in the near future.

König supplements his previous report with sixteen additional cases of intoxication from iodoform dressings. These tend to confirm his deductions from the previous cases. Eleven of the sixteen patients were more than thirty-five years old; seven over fifty. The five fatal cases occurred in patients aged seventy-two, fifty-six, fifty-eight, fifty-two and thirty-seven years respectively. In one he observed an exanthem closely simulating scarlet-fever rash.

One of these new cases is worthy of note. The operation was a resection of the knee. The first bandage—iodoform, quantity not stated—was allowed to remain six days; subsequently the bandages were changed every second or third day. Immediately after the operation the pulse increased in frequency from 80 to 120; during the first sixteen days it varied between 100 and 150; in the third week it was less frequent; in the fourth and fifth weeks 130 to 160, sometimes not to be counted. The temperature was constantly high—in the fourth and fifth weeks over 40° C.; then chills, hallucinations, loss of appetite, emaciation, were observed; the wound became painful. Under the conviction that pyæmia existed, the limb was amputated in the fifth week after the resection. Union occurred promptly under iodoform dressings, and the patient [illegible] history recovery. In the amputated member there was [illegible] the soft parts nor in the bones, but a [illegible] *resected bone surfaces*.

The discussion in the Berlin society on [illegible] stretching for the cure of [illegible] dorsalis [illegible] Several cases which Langenbuch had [illegible] been pronounced by others [illegible] rience; he has seen marked, [illegible] One case was noteworthy—a case [illegible] analgesia and deficient tactile sen[illegible] The right sciatic nerve was stretched. [illegible] gesia had vanished. The power of [illegible] The patient could locate correctly needle [illegible]

tinguish the head from the point. The girdle sensation had ceased. The gait was much improved; the man could stand with closed eyes without reeling noticeably, etc. The improvement still continues, but Israel expresses no confidence as to its permanence.

Hahn has operated in twenty-five cases, and summarizes his experience as follows: "I have achieved temporary improvement in cases of neuralgia, tonic and clonic spasms, epileptiform attacks of peripheral origin. In cases of trismus, tetanus and tabes, the operation has, in my hands, always failed."

Westphal deduces from the discussion that not a single case of tabes dorsalis has been cured by nerve-stretching; it is even doubtful if particular symptoms, especially the pains, can be bettered for any considerable time; certainly, in many cases, this symptom has not been in the least improved. He thinks that nerve-stretching can do no more than internal medication, electricity, etc.

Billroth's assistant recently reminded the medical public that the woman whose pylorus he extirpated in April, 1881, still lives, is in excellent health, and exhibits no signs of recurrence of the cancer. Billroth's own case, operated on six months ago, is in a condition equally satisfactory. A patient upon whom Czerny performed this operation some months ago, has gained forty pounds in weight since. Billroth and his school are evidently determined to prove the possibility of permanent immunity from the disease through this operation.

W. T. BELFIELD.

A REPLY TO DR. A. B. PALMER'S BOOK ON "HOMŒOPATHY WHAT IS IT?" — Dr. James. H. Patton, of Richmond, Va, ...mence, in the April number of the *Southern Clinic* a series ...ich will be a review and reply to Dr. Palmer's work. ...'s book will be methodically taken up and answered ... Dr. Patton is a graduate in regular medi... ...mœopathic school, a prominent physician,

Domestic Correspondence.

ARTICLE VI.

NEW YORK, MAY 1, 1882.

DEAR SIR:—Will you kindly call the attention of the readers of your journal to the proposition which I am about to make?

A "System of Gynæcology by American Authors" is in process of preparation, and it is intended that this shall be as nearly encyclopædic as possible.

To me has been allotted the task of writing the chapter on the "History and Statistics of Ovariotomy." To obtain complete statistics of all ovariotomies done in the three-quarters of a century of the history of the operation, is a task quite impossible, as many of the earlier ovariotomists are dead, and their records lost. Even among the living many may be disinclined to co-operate with me as they should. Although the report of each operator's cases may cost him some time and trouble, you will readily see what a valuable fund of information will be obtained by the collation and arrangement of all the facts to be gained.

It is desirable, too, to have all material ready for the press by the end of this year—so that the sooner the returns are made, the lighter will be the task of the editor. Please request all who wish their cases published, to send me the reports before September 1 prox.

May I request your earnest co-operation in the matter, that the work may be worthy the great subject in hand.

The questions to be answered are as follows:

1. Name of Operator? 2. Age of Patient? 3. Nationality? 4. Married or single? 5. Aspiration or previous tapping? 6. Duration of growth? 7. Laparotomy or vaginal Operation?

8. Condition of patient at time of Operation? 9. Were antiseptic precautions used? 10. Was the spray used? 11. Long or short incision? 12. Adhesions or other complications? 13. Double or single Ovariotomy? 14. Pathological features of Cyst? 15. Treatment of the Pedicle? 16. With or without Drainage? 17. Duration of operation? 18. Complicated or uncomplicated history after Operation? 19. Anti-Pyretic used, if any? 20. Result. Cause of death, if any? 21. Primary or secondary operation?

Let the answers be as concise as possible. In many cases a simple yes or no will suffice.

Will you kindly assist in giving the greatest publicity possible to this notice, and publish it for a sufficient length of time in your journal? Blanks, containing lists of the questions referred to, will be sent to any address.

All communications should be addressed to me at 191 Madison Avenue.

J. E. JANVRIN.

THE MEDICAL STUDENT'S PRIMER.—What place is this? This is the Pathological Society. How does one know it is the Pathological Society? You know it by the specimens and the smells. What does that gentleman say? He says he has made a post-mortem. All the gentlemen make post-mortems. They would rather make a post-mortem than go to a party. What is that on a plate? That is a tumor. It is a very large tumor. It weighs 112 pounds. The patient weighed eighty-eight pounds. Was the tumor removed from the patient? No, the patient was removed from the tumor. Did they save the patient? No, but they saved the tumor. What is this in the bottle? It is a tapeworm. It is a long tapeworm: it is three-quarters of a mile long. Is that much for a tapeworm? It is, indeed, much for a tapeworm, but not much for the Pathological Society.—MED. REC.

Reviews and Book Notices.

ARTICLE VII.—HOMŒOPATHY.—WHAT IS IT? A STATEMENT AND REVIEW OF ITS DOCTRINES AND PRACTICE. By A. B. PALMER, M.D., LL.D., Professor of Pathology and Practice of Medicine in the College of Medicine and Surgery in the University of Michigan.

This little *brochure* consists of the subject matter of a series of lectures delivered before the students of Ann Arbor University, containing an exposition of the Homœopathic faith and a fair discussion of its doctrines.

The writer asserts that the kind of opposition hitherto made to Homœopathy gives the non-medical public an impression that there exists an unreasonable prejudice against a body of professional men, and a narrow illiberality toward a system of medicine professing to be an improvement on the [illegible] methods of the regular practitioners; and this gives the [illegible] fraternity an opportunity to appeal to public [illegible] of persecution for opinion's sake.

The laity have usually extremely [illegible] of medicines and the different medical [illegible] indistinct impression that there is some [illegible] school medicine called Allopathy opposed [illegible] the new school system of Homœopathy, but [illegible] definite or technical knowledge of [illegible] the fact that regular scientific medicine [illegible] system at all. They do not understand [illegible] an art. A system of scientifically [illegible] practical deductions drawn from them [illegible] or canon of faith. They usually become [illegible]

other class of practitioners from some accidental influence, or from crude inexact observations they may have made, but without any fair examination of the subject.

The general object of this little work is to supply one of our defects in the treatment of the Homœopathic system. There is no temptation to exaggerate the peculiarities of these teachings, as they are sufficiently striking in the language of their authors. Pains have been taken to give exact quotations, and to present the unmistakable meaning of the quoted text. The references to titles and pages of Homœopathic works are made with care.

The exact status of Homœopathy in England and on the Continent, ascertained by personal inquiry, is given from the lips of many prominent European medical men. It is stated by them that the chief supporters of the waning system are among the country clergy, who, provided with hand-books and medicines, dose their parishioners for their minor ailments.

The usual absurdities of the so-called provings are related. Tables of the triturations in detail are carried out. Some of them are by Sir James Simpson, of Edinburg, confirmed by the mathematical faculty of Edinburg, which demonstrate that the fifteenth trituration of a grain of medicine would require a mass of sugar sixty-one times as large as the earth. One minim of Mother Tincture, at the twelfth attenuation, demands a sea of water six times the size of the Mediterranean.

To the medical man beset by blatant Homœopathic associates, this little work proves a constant friend. It should be in every practitioner's library. W. L. D.

ARTICLE VIII.—THE MOTHER'S GUIDE, in the Management and Feeding of Infants. By JOHN M. KEATING, M.D., Lecturer on Diseases of Children at the University of Pennsylvania, etc.

[illegible] pleasant little volume contains a great deal of common [illegible]ice in plain, clear language, addressed to the better [illegible]ers. The chapters are mostly on hygienic subjects [illegible]h infantile life from birth to the end of dentition. [illegible]ion and preparation of artificial foods and the [illegible]nstipation, the directions for procedure in the

[illegible] childhood [illegible] in [illegible] article [illegible] A [illegible] Volume [illegible] Engraving [illegible] F. [illegible] Son & Co. 1881. [illegible]

ARTICLE II.—[illegible] A [illegible] Description of the Anatomy of the Human Body. Intended for the use of Students Attending the Demonstrations. By [illegible] V. Hulke, [illegible] Assistant Surgeon to the [illegible] Medical School of Medicine.

[illegible] volume [illegible] a [illegible] compilation of [illegible] information.

In the [illegible] we do not find [illegible] we have seen in a volume of the kind. The [illegible] of the eye and [illegible] are fine. In [illegible] there is not [illegible] in the [illegible] which [illegible] before it which [illegible] the [illegible] an excellent [illegible] in [illegible]. New York: G. P. Putnam's Sons. 1881.

W. L. D.

ARTICLE I.—Illustrations of Dissections, Vol. II. A Series of Original Colored Plates the Size of Life. By G. V. Ellis and E. H. Ford.

Lessons on a uniform scale and [illegible] of [illegible]. The drawings from nature by Mr. Ford, [illegible] by Professor Ellis, of University College, London. [illegible] another of Woodis fine series for 1882.

The accompanying text is [illegible] surgery of the parts illustrated, and [illegible] demonstration. (Wm. Wood & Co., New [illegible]

ARTICLE III.—A [illegible] and Terms used in [illegible] By Fancourt Barnes, [illegible] the Lying-in Hospital, etc.

The writer has endeavored to [illegible] in botany, chemistry, anatomy, physiol[illegible]

Such a work, in view of the ever-increasing number of new words, needs constant revision to be of much service to the student. The volume is of handy size, and will form a valuable companion to the translator. W. L. D.

ARTICLE XII.—MANUAL OF THE PHYSICAL DIAGNOSIS OF DISEASES OF THE HEART, Including the Use of the Sphygmograph and Cardiograph. By ARTHUR ERNEST SANSOM, M.D., London.

This is a most valuable little volume. The author has exhausted the subject of the physical diagnosis of diseases of the heart. Some of his statements are too dogmatical; as "notable feebleness of impulse, co-existing with irregularity, is pathognomonic of dilatation of the left ventricle, and indicates that the muscular fibers have become disintegrated, and have lost their tonicity."

The author has investigated the use of the sphygmograph and cardiograph, and has recorded many useful facts. But until these instruments can be simplified and made more uniform in their action, they must be more useful to the clinical investigator than to the every-day practitioner.

ARTICLE XIII.—TRANSACTIONS OF THE INDIANA STATE MEDICAL SOCIETY, AND CODE OF ETHICS, 1881.

This contains the President's address, by Dr. T. B. Harvey, Indianapolis; various papers; transactions of the thirty-first session, constitution and by-laws; with American Code of Ethics.

H. Charles, M.D., of Carthage, in a paper on "Tobacco and its Toxic Effects," says: "I am led to the conclusion that tobacco is the cause of more heart disease than any one thing beside; and I am inclined to think that it brings on more of this trouble, in its various phases, than all other causes combined." [illegible] diametrically opposed to the teachings of Flint, Fothergill [illegible].

ARTICLE XIV.—REPORT OF STATE BOARD OF HEALTH, MICHIGAN, 1880.

From this report it is evident that the most widely distributed, although not often fatal, disease is intermittent fever; 92 per cent. of the diseases observed and reported being intermittent fever. Of other diseases, 90 per cent reported diarrhœa; 32 per cent. diphtheria; 10 per cent. scarlet fever. No small-pox was reported from any part of the State. Contributions by John Mulvey, M.D., British Navy, and A. W. Nicholson, M.D., Otisville, on "Ozone in Nature," and the best methods of observing it, are quite instructive.

TRANSACTIONS MISSOURI STATE MEDICAL ASSOCIATION, 1880.

SECOND ANNUAL REPORT OF BOARD OF HEALTH, LUNACY AND CHARITY, SUPPLEMENTARY, OF MASSACHUSETTS, 1880.

BOOKS AND PAMPHLETS RECEIVED.

Foster's Physiology. 2d Edition. H. C. Lea.

Dalton's Physiology. 7th Edition. H. C. Lea.

Sensation and Pain. Taylor. G. P. Putnam's Sons.

Physicians' Clinical Record. D. G. Brinton. Philadelphia.

Winter and its Dangers. Osgood. P. Blakiston.

The Anatomist. Hilles. G. P. Putnam's Sons. New York.

Opium Smoking. Kane. G. P. Putnam's Sons.

Eczema and its Management. Bulkley. G. P. Putnam's Sons.

Holmes' System of Surgery. Vol. III. H. C. Lea's Son & Co. Philadelphia.

Diseases of the Chest, Throat and Nose. Ingals. Wm. Wood & Co. New York.

A New Form of Nervous Disease. Searl. Fords, Howard & Hurlbut.

The Nurse and Mother. Coles. J. H. Chambers & Co. 1881.

Illustrations of Dissections. Ellis and Ford. Wm. Wood & Co. New York.

Handbook on Diseases of Women. Brown. Wm. Wood & Co.

State Board of Health, Massachusetts. 1880. Rand, Avery & Co. Boston.

Diseases of Children. Meigs and Pepper. Blakiston, Son & Co.

Index of Surgery. Keetley. William Wood & Co.

Treatment of Varicocele. Henry. Vail & Co. New York.

Lectures on Diseases of Women. Henoch. Wood & Co. New York.

Coleman's Dental Surgery and Pathology. Stellwagen. Lea. Philadelphia.

Materia Medica and Therapeutics. Inorganic Substances. Phillips. L. Johnson. New York.

The Incidental Effects of Drugs. Lewin. Wm. Wood & Co.

Transactions of American Medical Association, 1881. Collins. Phila.

Physiological Chemistry of the Animal Body. Gamgee. MacMillan & Co. London.

Diseases of the Eye. Williams. Houghton, Mifflin & Co. Boston.

The Physician Himself. Cathell. Cushings & Bailey. Baltimore.

THE U. S. PHARMACOPŒIA.—The revision of the *Pharmacopœia*, we are informed, is nearly completed. The work will make a duodecimo volume of from 400 to 450 pages. The mode of issuing it must be very soon considered and decided. The copyright will be disposed of, no doubt, in accordance with the instructions, on the best terms obtainable. The manner of inviting proposals for the publication of the work has not yet been determined. It is probable, however, that those who think of competing for the copyright may obtain the information desired by applying to the chairman of the "Committee of Revision," Mr. Charles Rice, Bellevue Hospital, New York.—*Druggists' Circular.*

Editorial.

The April issue of this journal contained a statement, in the letter of our New York correspondent, which requires correction. It is there said that the New York Obstetrical Society had voted to give its reports to the *New York Medical Journal*, in consequence of the unpopularity of the editor of the *Journal of Obstetrics* with the New York gynæcologists. Had our attention been sooner directed to this personal statement, it should have been corrected at an earlier date.

The facts of the case, as learned by us, are that the New York Obstetrical Society offered its transactions to the *Journal of Obstetrics* under certain conditions of a business nature, which the publishers of that journal were unwilling to accept. The publishers of the *New York Medical Journal*, being, of course, anxious to secure for their columns such valuable material, did accept the conditions under which the transactions had been offered to the other journal named, and thus the change was effected. There was in the entire matter, from first to last, no element whatever of personal feeling, the entire proceeding being conducted and decided on business principles.

Though late in making this correction, it is none the less necessary, both for the reputation of Dr. Mundé and of ourselves. The former is not only a brother medical editor who is as highly esteemed by us [illegible] single member of that guild, but is a gentleman whose [illegible] as a specialist is as wide as this [illegible] the list of eminent [illegible] without including his [illegible] Dr. Mundé's [illegible] The latter has in no

sense lost in popularity with the New York obstetricians and gynæcologists; and if he had, it would be no reflection upon him. We have taken the trouble to get at the facts in this case, and feel that the reparation which we desire to make in this connection is simply an opportunity to pay a well-deserved compliment to a distinguished American physician.

THE following item in regard to Samuel Piercy, the actor, who died of small-pox some time ago, is copied from the New York correspondence of the *Philadelphia Press:* "He was one of a half-dozen intelligent men I ever knew to be influenced by the crazy howls of the anti-vaccination fanatics. Jebb and Bergh, and the rest of the mistaken lot, had managed to convince him that the risks lurking in the preventive were worse than the dangers of the disease. Before leaving New York, a few weeks ago, he laughingly rejected the advice of friends who urged him to be vaccinated. He was a convert to the views of Jebb and Bergh, and he paid the penalty of martyrdom."—*Michigan Med. News.*

PESSARY RETAINED FOR ELEVEN YEARS.—I read in this month's *Courier* the report of a case by J. G. Earnest, in which a pessary was retained in the vagina for six years. I can nearly discount that. One year ago, Mrs. H——, of Chicago, while on a visit to Charlotte, where I was then engaged in practice in company with Dr. L. A. Lebeau, formerly of St. Louis, called upon my associate, and consulted him in reference to a persistent leucorrhœa and stricture of the vagina. Upon examination, he discovered firmly imbedded in the folds of the vagina, and covered nearly its entire circumference in a mass of granulations and cicatricial tissue, a hard rubber ring pessary, which she informed the doctor had been placed there eleven years before by a physician of Chicago, and had remained there ever since, having never been once removed.—*Cour. of Med.*

Original Translations.

La France Médicale contains notes of a case of extremely low temperature following a prolonged exposure to cold during an excess of drunkenness. The patient was picked up unconscious on the street, and died the next day, with a temperature of 79° F. (26° C.) January 27, 1882.

Prof. M. B. Ball related before a meeting of the Académie de Médecine, February 21, the case of a patient who had hallucinations of hearing confined to one side, that in which purulent otorrhœa had followed typhoid fever.

An Accessory Placenta.— The 19th of February last, a woman gave birth at the Maternité to a living child, head presentation. Fifteen minutes later, the placenta appeared at the vulva, and yet could not be immedíately removed. While the midwife was tying a ligature back of the portion expelled, a hæmorrhage took place, and a second placenta was expelled, weighing 40 grams, and the first one 410. The two were formed by a membrane and a few ramifications of blood-vessels.—*Bulletin.*

A New Stock of Cow-pox.—Dr. Herviens has lately been experimenting with the virus from a spontaneous case of cow-pox in a heifer at Laforet, near Bordeaux. In relating his experiments before the Académie, the doctor said that he personally believed in the spontaneous origin of cow-pox, and of small-pox also; saying that the first case that ever took place must have been spontaneous, any way (?)—*Le Praticien.*

At a meeting of the Société de Chirurgie, February 22, 1882, Mr. Th. Anger reported a small epidemic of tetanus which came under his observation at Cochin Hospital last year. Four pa-

tients rapidly died of the disease. While demonstrator of anatomy at Clamart, the same observer witnessed the death of a sloth, together with her six young ones, from tetanus, after they had lived some time in a stable in which two horses had died of the same disease.

Bone-grafting.—Mr. MacEwen, of Glasgow, states, in a note to the Institut, that he has succeeded in reproducing om. 114 of the humeral diaphysis by means of six osseous grafts taken from the tibias of children affected with rickety curvatures. These grafts included the periosteum and the marrow also. The new humerus thus formed was half an inch shorter than the opposite one. The grafting was done antiseptically.—*Revue Médicale.*

A Curious Case of Hysteria, Accompanied with Paraplegia and General Anæsthesia, by Dr. Enrique Gélabert.—The writer places the following epigraph as a heading to his article: "*Propter solum uterum mulier est id quod est.*" Perhaps these words do not agree with the current scientific idea of our days. However it may be, here is the case: It is that of a girl seventeen years old, who had never menstruated, and had a lymphatic temperament very marked. Four months previous to this, she had entered a shop, in order to strengthen her debilitated constitution, and heal some multilocular adenitis, having remained idle till then. That while her health improved, the adenitis disappeared, and her physiognomy was good. At that time, hysterical accidents suddenly appeared, which the writer referred to *propter solum uterum.* One day, while the girl was following her ordinary duties in the infirmary, seemingly in good health, she suddenly uttered such a loud outcry that the neighbors heard it. The nurse ran to her and interrogated her, whereupon the patient said that she had felt such intense pain in her abdomen that she had not been able to control the cry just uttered. Patient continued at work, but in less than two hours another outcry, more piercing than the first, was heard. This time, the nurse found the patient on the floor, with her face downward, and giving no sign of life. The physician called to see her, two hours later, found the skin cold, the face livid, the pulse small and frequent, the eyesight vague, respiration slow, the senses blunted, and

absence of motion. All at once, the patient burst out laughing and singing.

Briefly, in twelve days, she developed a classical attack of hysteria, with bolus, general cutaneous and muscular anæsthesia, which afterward turned into hemianæsthesia, and later into superior hemianæsthesia.

Tartrate of antimony was very efficacious in this case, given hypodermically; besides, let us note that between the fifth and sixth day of the attack, the signs of her first menstruation appeared. The writer explains by that sexual evolution the hysterical attack. The patient did not take any food for eight days.

In relation to this, the writer relates the extraordinary case of a girl who was seized with an hysterical attack in her sleep, and did not take any aliment for seven weeks.—*Revista de Ciencias* in *Revue Médicale.*

Artificial Feeding in Pulmonary Phthisis.—Phthisis, says Prof. Peter, is a general and more or less immediate result of tuberculosis; a sort of organic cachexia, whose appearance and progress the physician can, in many cases, delay, even though he is powerless against the cause of the disease, the tubercle.

There is a sinking of the patient, sometimes slow, sometimes rapid, liable to aggravation and improvements, according to the resistance of the constitution. If there is tolerance, the struggle between the constitution and the tubercular products will be longer, and the physician will have time to delay the period at which the tubercles must become phthisical. But the essential factor of such a tolerance lies in the normal functions of the chief systems, especially the digestive.

There is no doubt that [illegible] feeding, especially in those hereditarily predisposed [illegible] to tuberculosis. In case the digestive canal is [illegible] and it loses its functional activity, or [illegible] sufficient quantityor qua[illegible] there is the frequent [illegible] of tubercular [illegible] tricial, can[illegible]

Prof. Pete[illegible]

relation between these two pathological processes, relates in his *Leçons de clinique médicale* cases which show plainly this morbid and causative relation: physical impediment to the taking of food; progressive inanition; marasmus; tuberculosis of the lungs. But if insufficient feeding alone is capable, of itself, of giving rise to tuberculous lesions, it must in a greater degree aggravate those already present.

Hence the diet of the phthisical, and of the tuberculous must be the object of special care on the part of the physician. The food must be substantial and variegated. But although it is easy to fill this indication during the early stages of the disease, when the appetite is good, and the digestive canal is not yet attacked, it becomes a difficult matter in ulterior stages, when vomiting and diarrhœa appear, and the appetite diminishes or is succeeded by anorexia.

To remedy the vomiting likely to occur under the circumstances, recourse may be had to washing of the stomach. (See the JOURNAL, April, 1882, p. 393.)

The anorexia remains, which tonics, bitters, mineral waters, etc., are generally insufficient to relieve.

Anorexia is not without its dangers, even in patients possessing sufficient strength, as the hysterical, for instance,—but it is especially dangerous in cachectic patients as the consumptive. These unfortunate patients, consumed by hectic, wasted by profuse sweats, diarrhœas and bronchorrhœas, fatally succumb whenever their appetite fails them.

But, as Mr. Debove wisely remarked, the power of digestion and the appetite, although corresponding in a healthy state may be disassociated in a pathological one; that is, a patient may lack appetite, while still able to digest well. It is also possible in some patients, for the violent disgust accompanying the ingestion of food to excite vomiting.

This way of reasoning, which has been proven practically correct, has been the starting point for artificial alimentation, the results of which have been communicated to the Societé Médicale des Hôpitaux, by its author, Mr. Debove.

The first trial was made on a phthisical patient with advanced signs of pulmonary tuberculosis, and with large caverns. This

patient was wasted, had profuse sweats every night, and was so weak as to be hardly able to be up a few hours every day. Every time that he tried to eat, he was seized with disgust, with cough and vomiting. He could not swallow more than one-fourth of a glass of milk.

The failure of general treatment and the indications of an early death called for a new treatment, and Mr. Debove resorted to artificial alimentation.

At a first sitting, a liter, (one quart) of milk was introduced into the stomach, through a sound, after washing of that viscus. It was well borne, and produced neither diarrhœa, vomiting nor nausea. On subsequent days, these injections into the stomach were given twice daily, and the amount of milk increased to two liters, 200 grams (7 ounces) of raw pounded meat, with two eggs.

Notwithstanding that relatively enormous quantity of food, digestion took place, and absorption proceeded in like manner, for the weight of the patient increased about 92 grams a day. However, two slight indigestions took place, one after adding 60 grams of tapioca to the milk, the other following an indiscretion.

With an increase in weight, other results as remarkable appeared. The sweats stopped, sleep returned, the strength increased so that the patient was able to walk a part of the day, the expectoration diminished. But the caverns remained as before.

In a second case, in which the disease was not so far advanced, improvement was more rapid yet, though the washing of the stomach was not practiced. The medium increase in weight was of 192 grains daily. No accident occurred.

Analysis of the urine of this patient showed an increase of urea, a diminishing of t[illegible] of urine, and an increase of albuminuria. This is [illegible] the diet. Some physiologists say [illegible] eliminated through t[illegible] albuminuria.

The thi[illegible] than either the [illegible] of the disease. A[illegible] although the [illegible]

Mr. Dujard[illegible]

new process. They increased in weight daily, but not so fast as the two above cases. Mr. Beaumetz gives only half the quantity of food given by Mr. Debove. He also modified the treatment, using a Faucher tube instead of a stiff sound. This tube, which is of an easy introduction, should be at least one centimeter (2-5 inch) in diameter; it should be wet with milk or water before introducing. In case the patient's stomach is very irritable, he injects the aliments immediately, in case it can tolerate previous washing. This is done with a solution of six grams of sodium sulphate in a liter of water.

From the ration proposed by Mr. Debove, he subtracts one egg, and adds, if there is no diarrhœa, one to two hundred grams of cod liver oil to begin with, then some spoonfuls of pepsine, then the food with chloride of sodium.

These results, although not very numerous, are encouraging enough to incite to new trials. Forced alimentation seems to offer important advantages which recommend it to practitioners. It can be applied to the last stage of phthisis, which was formerly left without available treatment. This method accordingly constitutes a precious means of treatment and marks a real progress. However, it is not devoid of all risks.

Thomas M. Denos saw, in a case of phthisis in its last stage, access of suffocation and vomiting, with reflux of the milk through the nostrils, and its introduction into the trachea, soon following on the forced ingestion of a liter of milk. Patient died of pneumonia in less than two days.

Notwithstanding this accident, Mr. Denos declares in favor of the forced alimentation of phthisical patients; recommending at the same time to proceed with prudence and gently, and introduce smaller doses in succession. He does not advise this treatment during febrile accesses. These advices should be carefully noted down.—F. LEPRÉVOST, in *Revue Médicale*, Feb. 4, 1882.

Selections.

INFANT FEEDING AND INFANT FOODS. (Continued from page 526, May number.)

We are assured that Nestle examines his materials very carefully, uses only bread made of the very best wheat, and the crust only; and that the starch is transformed into dextrine and sugar, under a pressure of a hundred atmospheres, by overheated steam. Thus Nestle's food is not only the very best nutriment for infants, but also for mothers who would fain raise a supply of milk in their own breasts, though it appears that that would be an uncalled-for desire in the face of all that is said about Nestle's food being a perfect substitute. All of which is respectfully submitted by Mr. Nestle's prompter, Prof. Lebert, or, perhaps, rather by Prof. Lebert's prompter, and most of which is untrue.

Many years ago, fifteen or more, when Nestle and Lebert discharged their pamphlets, advertisements, and agents upon America, I was induced to try and employ Nestle's food. I could not say that in children of a few months or a year it did any harm; on the contrary, it was fairly tolerated by most of them. I consented even to add my name to those of others recommending the article—the only time I ever did so in my life. A few years later, another advertisement appeared, which advised rather against the purchase of the former preparations, and recommended the recent modification. It was then, at last, that I resolved to scrutinize what I had recommended in good faith without any examination. I found, 1, that the contents of a number of boxes did not closely resemble each other; 2, that the main substance was made up of starch; 3, that even the cell membranes were not equally crushed, and a great many not

changed at all. It has also been found, and urged mainly by Eliza McDonogh (*Inaug. Diss.*, Zurich, 1877,) that the fragments of the microscopic elements exhibit the appearance of mechanical destruction, and not that brought about by heat. J. Miescher also states that he finds no essential difference between Nestle and common flour. Iodine yields instantly its blue reaction; the starch elements are partly free, partly still locked up in their cells. Some particles are albuminous; they turn yellow with iodine. In his experiments the watery extract was alkaline; in those of McDonogh it was acid, and contained but little dextrine. Cnyrim found in the boxes examined by him, sugar and dextrine to the amount of 45.56 per cent., but still 20.76 per cent. of starch was left without any change whatsoever. And the result of Jacobsen's examinations is that the contents of the boxes are not alike.

Gerber, also a large advertiser, and Nestle's Swiss rival in America, claims to have improved Nestle's flour by a difference in the process of preparation; the methods of which, however, are not communicated. His flour is wheat, which is again praised as the one article containing all the material required by the growing body in the smallest possible bulk. The same enumeration of the elements is made of an organic salt, and their mixture with organic substances is spoken of as if it were a new discovery. Potassium and phosphatic combinations, albuminates, carbon hydrates, fats, are whirled about in the most impressive and bewildering manner by every one who has a cheap article for sale at a high price. The greatest stress is always laid on the presence in the article offered for sale of all the chemical elements necessary for the building up of the body. But that presence alone, I repeat, is not sufficient; chemical figures and equivalents still enjoy too much respect and a sort of superstitious veneration. A thorough preparation preliminary to digestion is required, though the proportion of elements in a mixture were ever so appropriate. In regard to wheat, however, this proportion is not the very best at all, for wheat contains more starch than do barley or oatmeal.

In regard to both of them, Nestle and Gerber, Drs. Altherr and Lorch, in a little book entitled "On the Weighing of Infants

for the purpose of Determining the Nutritive Value of Woman's Milk, Cow's Milk, Nestle's and Gerber's Flours, and Liebig's Soup," Erlangen, 1877, has no great praise to bestow. Both are declared to be improper foods for the newly born and infants in the first few months; but they admit in the later months of life, when farinaceous foods of all kinds are well tolerated, they also may be given in the same manner. Similar observations have been made in the Child's Hospital, at Berne, Switzerland; and similar remarks are due to the Anglo-Saxon Food, which contains milk, some gluten, and plenty of starch, like the others.

In all of the twenty-two European infant foods examined by Eliza McDonogh, the starch was never changed to such a degree as to render the recognition of its source impossible. Wheat, corn, rye, barley, could always be recognized under the microscope. A number of the granules were broken up, it is true, but many more were intact. Thus, not even the very exact and uniform distribution of the starch is accomplished. All of them consist of baked flour of some kind, either by itself or mixed with sugar, milk, or salts. There are some, however—for instance, that of Hartenstein—consisting of wheat and oats, which has not even undergone the baking process.

Part of these European preparations have been naturalized with us. Some have made a great reputation, and probably money for many beneficent manufacturers, agents, and salesmen. But they are not alone in the field. Saul slew a thousand, David ten thousand. Europe has twenty odd infants' foods; America more than twice that number. Infants must no longer complain of lack of interest roused in their behalf.

Nature is the same all over; the nature of all natural things alike; that of wheat, oats, and manufacturer, wherever they be found. Thus the same results in regard to the composition of "infant foods" are reached here as in Europe. But a few days ago I was pleasantly surprised by the brief statements of Dr. E. Cutter, who, for *Gaillard's Medical Journal* (Jan., 1882), has undertaken the task of studying (microscopically) all the infant foods in our market. His researches, naturally, refer mainly to the proportion of gluten to starch. And some of his statements I shall refer to here, desiring to give them the greatest possible

publicity. I wish this brief article of his could be distributed in a hundred thousand copies, reprinted in every secular paper, read from every platform and pulpit of the land. For it is time that fraud should be stopped, and a nefarious trade suppressed.

Amongst the better preparations are Mellin's Food. It claims to be the only substitute for mother's milk, and not farinaceous. It is not the only substitute, but the starch is converted into dextrine, as in Horlick's Food.

Franklin Mills Wheat Flour contains more gluten than most of the rest. So does Arlington Wheat Meal, which is ground coarsely, and contains much gluten. Also Hawley's Liebig's Food, which contains wheat gluten cells, barley gluten cells, barley tegument, wheat starch, and cooked granular masses, which do not polarize light.

Mead's Malted Wheat Flour, a coarse flour or meal, which does not polarize light well; a good preparation.

Baby Sop is made of unhulled oats, malted and crushed, and contains all its elements; gluten cells of characteristic shape, and starch grains smaller than those of wheat.

As you descend the ladder, there is Keasbey & Mattison's Infants' Food. No gluten cells; consists of grape sugar and dextrine, and claims to contain alkaline phosphates.

Mother's Breast-milk Substitute is better than its ignorant advertisements; it contains gluten cells, bundles of wheat starch, barley starch, and gluten granules.

Imperial Granum, the salvator for invalids and the aged, an incomparable aliment for the growth and protection of infants and children, a superior nutriment in continued fevers, and a reliable remedial agent in all diseases of the stomach and intestines; that which makes strong bone and muscle; that which ood flesh and blood; that which is easy of digestion, stipating; that which is kind and friendly to the brain; which acts as a preventive of those intestinal disorders to childhood—Imperial Granum food, which claims starch, impurities, and soluble matter are effectually ex- and that the gluten only is retained, *shows no gluten cells* microscope, and is no better than it should be, no mmon flour, which, when fine and white, is de-

prived of three-fourths of its gluten, and no better than Savory & Moore's Food, which is also like common flour.—(E. Cutter.)

Ridge's Food is advertised as "a perfect food for infants." Ephraim Cutter tells you how perfect a food it is. It contains the beard of wheat, wheat starch mass, starch bundles, apparently of maize, caked mass of starch which does not polarize light, starch grains, starch granules, and small gluten granules. And he adds: "The proprietors must add gluten cells, at least in the proportion found in wheat or maize, to bring the product up to the standard of wheat flour."

Crosby's Brain and Nerve Food, which claims to be composed of vitalized phosphates from ox-brain and wheat-germ, consists almost exclusively of starch. There are no characteristic gluten cells, no nerve-fiber, no axis cylinder fiber, no ganglion, nor multipolar cell. The advertisement claims that the brain is that of the ox, but the label states that the brain is that of the fish. Label advertises 730 parts of starch in 1000, claims some gluten; if this exists, it is the granular gluten of common flour. There are 270 parts of so-called vitalized salts asserted to be in this food; that is, salts in connection with the organic substances named. If this be so, all the albuminoids in all the foods in the market are vitalized, also. There is but little gluten, if any, in this food. (E. Cutter.)

Blanchard's Glutena, 90 per cent. of starch, 10 of gluten, the reverse, exactly, of the claim made for the food.

Blair's Wheat-food, abundance of starch, no gluten.

Redmond's Cerealine, starch, very little gluten.

Durkee's Glutena, wheat, almost exclusively starch.

Farwell's Gluten Flour is advertised as "gluten left behind after the starch is blown out," contains [illegible] almost no gluten.

Victor's Baby Food is said to [illegible] mother's milk closely," and is like cracker and bread.

Taylor Brothers' Pure Bermuda [illegible] of potato starch, with an occasional addition of

Hubbell's Prepared Wheat, almost

No gluten is contained in *New York* [illegible] blast flour, barley flour, buckwheat flour, [illegible] Nation wheat flour, common [illegible]

Puritan flour, Patapsco flour, Underwood flour, fine granulated wheat flour.

Gluten Flour, New York Health Food Company, is common flour. The most superficial examination exhibits starch in abundance.

After all this, with all my heart I assent to E. S. Gaillard's editorial remarks, which are as follows:

"It is almost criminal that such great questions, affecting the health, and, therefore, the happiness and wealth of a nation, should be left to the ignorance of the miller and the baker; to the foolish customs of society, to the equally foolish test of the mere appearance of bread, and to the fashionable restaurants and hotels. Manufacturers of foods for the sick, and, above all, for infants, should be held to the strictest accountability. It is the highest duty of the physician to learn the facts in regard to meal foods, and to use his information for the benefit not only of the sick, but of the whole community." And experience shows, that as the committee report referred to expressed it last year, the community insists, with the utmost pertinacity, upon giving their babies, as soon as weaning time arrives, or before, such articles of food as they know nothing about. When an adult sits down to a meal and finds placed before him articles of food with which he is not familiar, he makes inquiries in regard to such articles before eating them. The baby, however, is credulously fed upon things with which the child, father, mother, or doctor has not the least familiarity; all of these foods which are sold in large quantities have a composition which is unknown to the public. When a manufacturer designs to say anything about his merchandise, it is to the effect that the food offered is the best in the market, that it is the proper thing and only thing for children and invalids of all ages, that the relation of the albuminous substances to carbo-hydrates is exactly correct, and that a package costs a certain amount of money. In regard to this subject the public appear to be smitten with absolute blindness. They insist upon forgetting that the man who offers for sale, and advertises at a very heavy expense, does so, as society is constituted, for his pecuniary advantage solely. To say that when the article offered is not good it will find no market, is deceiving

yourselves, experimenting on your baby, relying on the character of a single man or corporation, on the honesty or intelligence of the manufacturer's chemist, or his superintendent, or his workmen, on the nature and condition of the elements used in the composition of the article, and on ever so many influences, which can work before the manufactured article gets into the hands of the consumer. Why the sellers and advertisers of unknown compounds should be more trusted than those who raise and sell a simple article of food, such as milk, which is constantly adulterated, can hardly be perceived. Is it necessary to say that the factory furnace is lighted more in the interest of the proprietor than for the benefit of the public?

Still, in regard to the growing evil, which has assumed vast proportions, the profession is at fault, to a certain extent. There are but few who are aware of the inexpediency and sometimes danger attending the exclusive feeding of cow's milk, and look for substitutes. Examples of infants' thriving on almost any food are numerous; the public taste runs in the direction of the unknown; thus the responsibility of advice or assent is but a slight one; many of the foods in the market come in a pleasant form and convenient for use; thus the food-business firm certainly thrives. Professional men have become used to look upon the sale of patented foods as something quite unobjectionable. Those imbued with the strictest sense of ethics, who would not patent an invention, nor tolerate the fellowship of a professional man who so does, who frown upon patented medicines, because they are unknown and unknowable compounds, who object to reducing medical science to a mercenary standpoint, these very men forget their habits and principles when the question of patent-right and secrecy comes up in regard to patent foods. If I add, that many of the scientific journals of Europe, particularly those in Germany, dedicated [illegible] study of children's diseases, are frequently [illegible] discussing the merits and effects of s[illegible] to what extent the ev[illegible].

No profou[illegible] that a great many o[illegible] and that a few [illegible]

they are compositions, that everything organic may spoil, that every compound depends on too many circumstances which are apt to interfere with its uniform condition, and that when you rely on a compound, you rely at the same time on a proprietor, his foreman, his workman, his chemist, you feel that you are easily deceived or disappointed. Besides, for an article, the constituents of which you can purchase at a low price, you are taxed to an inordinate extent.

And why all this? Because cow's milk is found to be defective, when compared with mother's milk. These defects I have pointed out. It contains too much fat, and too much caseine, the latter of abnormal condition. Instead, however, of correcting the faults of milk, the latter is simply superseded and exchanged for something else. Is potato starch or even wheat, more similar to mother's milk, than is that of the cow? Now the proportions of fat and caseine can be regulated by the addition of water; but dilution is not the only function of the water added to the milk; the digestibility of the latter is also increased.

When albuminous material is subjected to artificial digestion with pepsin, and the process ceases, it recommences when more water is added. When the amount of water in the mixture is large, digestion will take place in a lower temperature than without it. Many digestive disorders in the living are due to lack of water, particularly in infants, who seldom or never are supplied with it in addition to what they obtain in their regular food. Infants who are apt to perspire much, either well or rachitic, who are kept in warm beds most of the time, who are exposed to summer heat, and lose much moisture through their skin, ought to be offered water a great many times in the course of the day. Particularly fat infants, who are mostly developing a rachitic or scrofulous disposition, ought to drink plenty of water. It accelerates tissue changes, and, therefore, animals which are to be fattened are habitually deprived of water. The rule then holds good in infant alimentation, that food, whatever it be, shall be given in considerable dilution.

But in the face of all the advantages water has, it is by itself not the proper dilution for the caseine of cow's milk. Some admixture must be found which is apt to overcome the dense coag-

ulations of caseine referred to before. The particles of caseine must not be permitted to remain in juxtaposition, but separated from each other to such an extent that coagulation in the stomach will take place in small loose flakes of the kind presented by curdling mother's milk. This object is accomplished by all farinaceous substances, without regard to their large or small percentage of starch; also by gum arabic and gelatine. Of the farinaceous substances, I have but two to recommend, barley and oatmeal. And for good reasons. The starch they contain is more easily dissolved and transformed by saliva than that found in wheat, which is the stock and trade of the infant-food manufacturers. And, moreover, there is less of it in them than in wheat.

The barley and oat-meal are the two substances I mostly employ, as their chemical constituents are nearly alike, with the exception of a large portion of fat in oat-meal, which is not found in barley. Barley water, or thinned and sweetened oatmeal gruel, may be given to the child, even at the breast. The indications for the use of one or the other lie in the condition of the infant. Where there is a decided tendency to constipation, I prefer oat-meal; where there is no such tendency, as usual, or perhaps even a tendency of the bowels to be loose, I employ barley. The "prepared" barley is a good preparation for older children only, for the whiter it is the larger is its percentage of starch. It is safest, as no mistake or deception can then take place, for every mother to grind the whole barley in a common coffee-grinder of her own. The younger the baby the more advisable does it become to boil whole barley for hours, to secure the contents of the bran. A teaspoonful of either is boiled in from five to eight ounces of water, with some salt, for twelve or fifteen minutes, the decoction to be quite thin for young infants, thicker for later months, and then strained through a linen cloth. Infants of four or six months are to have equal parts of this decoction (which ought to be made fresh for every meal), and of boiled cow's milk; some sugar besides. At an early age, the thin decoction, at a later, the milk ought to prevail in the mixture, which ought to be given at a temperature of 80–90°. The newly-born, which has to wait some days for his spring to open

for him, is best fed with a mixture of from four to (in summer) six parts of thin barley water, and one part of boiled milk. A baby of two months will take the same mixture in the proportion of from two or three to one.

I beg leave to quote a single author. Biedert, a conscientious worker, the author of competent contributions to medical science, and particularly to infant hygiene, himself the inventor of a cream mixture for the use of well and sick infants, expresses himself in the following manner in the very circular accompanying his preparations: "The first demand on a method of nourishing infants must be this—that the nutriment is tolerated by all infants, including the feeble and sick, in a manner similar to mother's milk. Now I have found that a food coming up to this requirement, must not contain more than 1 per cent. of caseine. Accordingly, cow's milk must be diluted with an indifferent thin decoction (oat-meal or barley.) In the beginning, the dilution must be in the proportion of 1 to 3 or 4; this admixture must be gradually reduced. This is the very mixture which surpasses all compounds thus far recommended, and all of the artificial preparations." And still in the face of this testimonial, than which I do not wish a more positive one, he invents a cream mixture.

Though my remarks must necessarily draw to an end, I must not close without at least one additional word in regard to some other constituent of infant food. Beside sugar, which is required both by taste and physiological necessities, the addition of common table-salt in moderate quantities both to cow's milk and to farinaceous substances is advisable.

The addition of chloride of sodium to the food is the more important the more the milk is mixed with a vegetable decoction. Carnivorous animals crave no salt; herbivorous, however, a great deal, although in their food the absolute amount of chlorine and sodium is as large as that of the former. They are easily drawn by hunters into fields and woods strewn with salt; and the instinct of mankind has early taught how to add more salt to herbaceous than to animal food.

We find that the craving for salt grows in proportion to the amount of potassium salts contained in the food. In that of herbivores there is twice or even four times as much potassa com-

pared with its chloride of sodium as in that of carnivores; potatoes, with their large amount of potassium, combined with chlorine and phosphoric and citric (pomic) acids, necessitate the addition of large quantities of chloride of sodium. In the food of carnivores, however, who eat whole animals, one equivalent of potassium is nearly balanced by one of sodium and one of chlorine.

Potassium salts and soda salts both exist in the blood, the former principally in the blood corpuscles, the latter entirely in the serum or watery part of the blood. There is chloride of potassium in both corpuscles and serum, but phosphate of potassium in the corpuscles alone. Now if there should ever be in the blood more phosphate of potassium than can be taken up by the corpuscles, it will be immediately decomposed by the chloride of sodium in the serum—chloride of potassium and phosphate of sodium are formed, and these are both rapidly eliminated by the kidneys, and pass away in the urine. By this means, chloride of sodium is carried away, and must be replaced; in other words, vegetable food requires the addition of a great deal of salt.

The substitution of cow's milk for woman's milk necessitates the addition of salt for a similar reason; for while 1000 parts of human milk contain only 0.70 chloride of potassium, 1000 parts of cow's milk contain 1.30.

There may be infants—I have been told of more cases than I have seen myself—who do not bear barley. Others may not bear oat-meal. If so, or if for some reason or other it is wise or whim to discontinue them, it must not be forgotten that, though feeding a breastless child without cow's milk, appears preposterous, feeding with cow's milk alone is dangerous. I do not permit it. I want an admixture at all events capable of diluting, as it were, the caseine. For that purpose, and for that alone, I formerly recommended gum arabic or g[illegible] However, our knowledge of these substances has sinc[illegible] Prof. Wellmann, in Rostock, had a little patie[illegible] gastric fistul[illegible] stomach wall[illegible] takable and a[illegible] gum and gelat[illegible] nutritious. Th[illegible]

added to boiled cow's milk, to make it available as the regular food for infants, is by no means small. They all come up to the requirements we look for in such substances. They must be perfectly simple and recognizable. They must be accessible, and for sale everywhere. The mode of preparing them must be perfectly simple and easy. They must be cheap.

They must be as nearly the substitute of mother's milk as an imitation can be like the original. They must be alike for throne and den, for Fifth Avenue and Mulberry Street, for the wet-nurses for the throne and for Fifth Avenue, come also from the dens and from Mulberry Street. It is not wise to forget that nature is republican in principal and democratic in practice. If too often there be no equality before a court of so-called justice, there is equality before that of physiological law.—*Med. News.* Feb. 18, 1882.

THE PROGNOSIS AND TREATMENT OF ANKLE-JOINT DISEASE,*

By NEWTON M. SHAFFER, M. D., of New York, Attending Surgeon to the New York Orthapædic Dispensary and Hospital; Orthopædic Surgeon to St. Luke's Hospital.

In a previous lecture† I called your attention to two important conditions of the ankle-joint—viz.: chronic synovitis and chronic osteitis. Before beginning the consideration of treatment I will briefly call your attention to the prognosis of these lesions.

All joint diseases, and especially those under consideration, require the element of time in their treatment. They are well calculated to test the patience, the industry, the ingenuity, and the temper of the surgeon. In many instances the symptoms will be so unimportant in the minds of the parents, if the patient be a child, or in the consideration of the patient himself, if he be an adult, that complete relief will be looked for in a very short time. But do not let the apparently unimportant symptoms mis-

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* A lecture delivered at the New York Orthopædic Dispensary and Hospital, November 10, 1881.

† The pathology, symptoms, and diagnosis of Ankle-Joint Disease. *Annals of Anatomy and Surgery*, vol. v., p. 1, January, 1882.

lead you. You may make it a rule to give an unfavorable prognosis in point of time, in certain chronic joint conditions, if the initial symptoms are apparently unimportant. In other words, the nearer the disease approximates an acute inflammation, the better is the prognosis. The more insidious the onset, the longer, as a rule, the disease will continue, and the more uncertain are we regarding the duration, the course, and the ultimate result. Do not attempt, therefore, to give a prognosis until you have duly weighed each symptom, and carefully studied each phase and feature of the history. I have sometimes been tempted to class chronic joint disease as one of the self-limiting lesions. Many of its clinical and pathological aspects lead to the conclusions so ably stated by Dr. Flint regarding phthisis.* In other words, all that we can do in certain cases of chronic joint-disease is to watch, support, and protect just as we do in certain acute diseases; only in many acute lesions the course of the disease is known, and in chronic joint lesions it is not known. Hence, I am very cautious in giving a prognosis in any chronic joint trouble. It is too much like guess-work; and he who guesses in orthopœdic surgery will come to grief. It is my plan to speak frankly to the patient or his friends, and to state plainly both the character of the lesion and the disadvantages under which the surgeon labors. My prognosis, therefore, is rather a description of the nature of the treatment and of the care necessary to obtain a good result. I do not believe that any one is justified in making an exact pro[illegible] joint disease. I do believe, however, that, unless [illegible] good result may be [illegible] true of ankle-joint [illegible] necessary to secure [illegible] definitely than this. [illegible] until there is some more [illegible] with the known pathologi[illegible] your attention. When we [illegible] regressive metamorphosis into [illegible] make a much more favorable pro[illegible]

* See "Self Limitation in Cases [illegible] Phthisis," [illegible] vol. i., No. 3.

plish this transformation in all cases; indeed, with our present knowledge, we can succeed in only a very few.

Some surgeons seem to be afraid of producing anchylosis by immobilizing a joint in a state of chronic inflammation. I wish we could accomplish this end by so simple a procedure; but, anchylosis, in chronic arthritis, is not so easily produced. You may stiffen a joint more or less in a state of chronic inflammation, by an immobilizing apparatus, but you will very rarely produce anchylosis by this means. The disease has progressed, and it will progress in certain cases, notwithstanding every effort we may make. It would be a great victory for orthopædic surgery, could some procedure be devised, short of excision of the diseased articular ends, which would produce anchylosis or synostosis when necessary. In the acute joint lesions it is a very different matter. I have seen them rapidly anchylose under immobilization. And I may say that, as a rule, the effort of the surgeon in certain acute joint lesions is to *prevent* anchylosis. On the other hand, in certain forms of chronic articular disease, it is almost impossible to produce this result. In the latter case the condition does not attain a point where repair takes place until, in many instances, the epiphyseal structures are destroyed. The conditions met with are so perplexing and so little understood, and the indications are, apparently, so contradictory in some cases that it is not a matter of surprise that almost every surgeon should deem his own method of treatment the best, when, in reality, all are more or less faulty. We will try to-day to meet the indications as nearly as may be, simply saying that no treatment yet devised meets all the indications that the pathological conditions present.

If we find a distended capsule at the ankle-joint filled with fungous proliferating masses, the first question to be answered is: Does the disease involve the bone? For we should at once recognize the fact that however painless the lesion may be, however slight the inconvenience it occasions, the process is inherently destructive and progressive. Should we decide that the bone is [illegible] disease or only slightly involved, we must at first make [illegible] to prevent a further progress of the proliferating

Bear in mind, also, that there are various pathological states in that condition which, for brevity and convenience, I have classed under the general heading of chronic osteitis. Those most frequently met with are:

1. *Osteitis Fungosa or Granulosa*, either primary, *i. e.*, occurring in the epiphyseal structures, or secondary, as a sequence of a fungous degeneration of the synovial tissue.

2. *Caries Necrotica*, a condition in which the process of destruction is rapid, and carious bone is discharged, sometimes in quite large pieces.

3. *Simple Superficial Caries*, following periostitis, and finally:

4. *Caries Interna Caseosa*. The prognosis varies somewhat in all these conditions, as well as the treatment. I have spoken of the prognosis in caries fungosa, and I stop again to impress upon your minds that it is a very sluggish condition, with very insidious prodromata. It is accompanied sometimes by the atonic form of suppuration. You do not get laudable pus in this form of abscess. The discharge is profuse, but thin and ichorous, and filled with broken down tissue. In the necrotic caries the prognosis is more favorable; nature rapidly exfoliates the diseased bone, and the process is more like that which occurs in necrosis of the diaphyses of the long bones. In these cases, too, you will find more marked constitutional disturbance. The process, in other words, more nearly approaches the acute form of disease, and it runs a much shorter course, recovery, with anchylosis, in many instances, taking place. The superficial caries, properly recognized and treated, may also be called a favorable lesion, for it may not involve the articular surfaces. It may, however, become the caries necrotica, and total joint destruction may ensue. Suppuration of the more favorable type frequently accompanies this process, and [illegible] should be to open as early as possible, contrary to [illegible]. The caries interna caseosa is a form very [illegible] to the early stage, and it is very [illegible] tuberculosis [illegible] possible to [illegible] These two, [illegible] forms of disease [illegible]

day. The other forms of disease are those which are more readily recognized and more easily treated, and I will not attempt to discuss them in detail to-day. Nor can I attempt to describe all the chronic joint conditions which we may meet with. Neither can I discuss the various theories regarding their tubercular or non-tubercular origin. I shall rather strive to impress some facts upon your mind regarding the most neglected, and I think the least understood, of these lesions.

But there are those forms of chronic osteitis of the joints to which I have so briefly alluded; and, while in many instances the differential diagnosis is very difficult, especially in the early stage, you may be assured that the treatment to which I am about to call your attention will answer an excellent purpose in all the pathological states mentioned, whether you supplement your mechanical and systemic aids by incision, excision, etc., or merely pursue the method known as the "expectant plan."

There are many points concerning the etiology, pathology, symptoms and prognosis of chronic joint disease, that I should like to call to your attention before proceeding to the consideration of the treatment of ankle-joint disease; but it would be impossible to do the subject justice in one, or even several lectures. We have yet to consider knee, hip and spinal diseases before we close the discussion of these subjects, and you must pardon me if I defer some questions, and more especially those which are particularly suggested by other joint lesions, to a later date.

I showed you, upon the occasion of my previous lecture, two cases of ankle-joint disease. One of them illustrated the clinical aspects of chronic synovitis, the other of chronic osteitis. In the former we found the joint motions nearly normal; a bulging of the joint capsule, an elastic feeling, very suggestive of fluctuation, and an unimpaired walk and attitude. The other presented very different symptoms. The joint motions were very materially impaired by a very pronounced reflex muscular spasm; indeed, anchylosis was simulated by this peculiar condition. The joint outline was not obliterated, and there was no synovial bulging. The patient walked on his heel and limped very markedly; there was also a history of disturbed sleep. A difference in the condition of the muscles was also found in these two cases.

The patients with chronic synovitis presented a well-rounded calf, matching its fellow, while the one with chronic osteitis showed a smaller calf when compared with its mate. The former had neither reflex muscular spasm, nor a localized muscular atrophy, the latter illustrated both of these conditions. I cite these cases again, and once more call your attention to them, because we shall make them the basis of our remarks upon treatment, and shall have made for them apparatus to be applied in your presence during the present course.

But, before we speak of mechanical treatment, let us stop for a moment and discuss constitutional treatment.

There are certain indications which must be plain to all who have studied these cases, but it is very important that we should recognize that we have a regressive lesion—a retrograde rather than a reparative process—to deal with. We will suppose it to be the fungous synovitis or caries, and in all cases, not otherwise specified, we will refer to these conditions in our remarks. What remedy or remedies are there which will act specifically upon this fungoid degeneration. We must answer frankly that that there are none. Our very ignorance upon this subject drives us at once to the ground of all truly conservative surgeons —viz.: that of thorough, systemic treatment. We must make every effort to restore to nature its impaired reparative power; to bring to the local expression of a peculiar and little understood diathesis a greater plastic effort. But here again we are met by a state of affairs that requires much thought and study. Hygiene, exercise, diet, and many other things [illegible] thought of; but I know of no specific that I can [illegible] you as applicable to all cases, or even one class of [illegible] a study, from the hereditary tendencies to [illegible] the joint, and it will require much thought, [illegible] experience and observation to apply the remedies [illegible] a case of chronic joint disease. But do not neglect [illegible] treatment, though you find that your pet remedy [illegible] duce the impression it should; and, on the other hand, [illegible] depend upon local or mechanical treatment [illegible]

Some cases are so very discouraging that [illegible] forced to admit, as I have done, that but [illegible]

plished by constitutional aid, and that the disease was one which would run its course in spite of all treatment, and get well with a certain amount of joint destruction when the period of limitation was reached, or die in the effort. For in some instances, in spite of all you can do, the apparently simple chronic synovitis will progress and become, in addition, a chronic osteitis. Suppuration of the atonic form may follow, and lardaceous degeneration or tubercular meningitis may remove your patient. These very rarely follow in ankle-joint disease; the hip and spine are most likely to be complicated by these conditions. But one should always take them into account. All this may be very discouraging, I know, but we can only learn by looking at things as they are, not by discussing them from a fictitious standpoint. I have seen chronic joint disease recover with remarkable rapidity, so much so that in some cases I have doubted the correctness of my own diagnosis; but I know that we can, in the majority of instances, help nature very much, and by simply removing traumatism and by aiding nature, as indicated, we can secure the must excellent results, and render our patients, while under treatment, active and happy members of society—a condition of affairs not attained by those who ignore the benefits and curative influence of scientifically constructed apparatus.

The secret of successfully treating chronic joint disease, however, lies in its early recognition. Learn, therefore, to recognize these insidious lesions before great damage is done; not only that, teach the mothers and nurses that they may know, that many slight limps attributed to a tight shoe, or to habit, etc., mean something serious. Teach your families that many cases of "worms" and "indigestion" etc., have turned out to be humpback. Tell the mothers of the families you are called upon to attend that a swelled joint may be the commencement of a serious disease; and thus aid in the diffusion of knowledge, which, if properly interpreted, will save more children from deformity and lameness than all the apparatus ever devised for relief.

The synovial membrane contains absorbents; it has a limited secretion, and its vascular supply is good. After the synovitis has existed for some time, however,

its absorbent power is greatly interfered with. In simple hydrarthrosis, where there are unimportant changes in the synovial secretion, the absorbents still act, and one of our greatest hopes in the treatment of chronic synovitis is that the free surface of the membrane is not disintegrated by the fungous masses. Upon this basis, in certain cases, we make use of compression. For this purpose we use a silk, elastic anklet, compressed sponge or a firmly-applied flannel bandage, which latter should be frequently readjusted. We also use such remedies externally as may excite the absorbents, if there be any left, to greater action. Oleate of mercury, iodine, etc., are useful; so are blisters and friction by the hands. A gentle, but persistent surface massage seems to possess the power of assisting in exciting the absorbents. If the joint shows a higher temperature than normal, avoid the use of excitants and apply ice or other cooling applications, continued, if necessary, for a long time. Other remedies, such as the actual cautery, etc., suggest themselves; but they will occur to you as you study your cases, and read, if necessary, the authors whose contributions are so excellent. Study your entire armamentarium of internal remedies, and do not confine yourself for a long time to any one remedy. Iron, the hypophosphites, the various iodides, mercury, etc., etc., are indicated, depending on the actual condition, the hereditary influences and tendencies. I have known mercury and iodide of potassium to accomplish excellent and rapid cures in cases with a syphilitic taint. I have known it to fail in many other cases. Iron is almost always indicated, and a favorite prescription of mine is the plain tinct. ferri chlor., in large doses, combined with an equal quantity of glycerine. It seems in many cases to aid the plastic power more than any ot[illegible] preparation I have used. But I might add a long list of [illegible]ns with which you are familiar. I will again state, h[illegible]ncing the subject of mechanical treatment [illegible] in itself, and that you must determ[illegible] the remedy or remedies necessar[illegible] ...ments of mechanical suppor[illegible]

Whatever value t[illegible] joint disease, such [illegible]

can scarcely be anyone who doubts its relation to the progress of the lesion, when once it is established. It is, at least, my firm opinion, that when a joint or any of its essential structures become diseased, we should adopt means which will, without doubt, remove the element of constant traumatism, produced by locomotion, etc., and which will protect the vulnerable tissues under all circumstances. This support, at the same time, should not materially interfere with exercise and locomotion. How shall we apply this general principle to the conditions we have been studying to-day? Nature rarely presents a pathological condition without, at the same time suggesting, if not a remedy, indications for its use. We learn from the pathological state and a study of the clinical features, how to apply the means of relief. Let me recall what we have said about chronic synovitis, and see what it suggests.

In chronic synovitis there is almost normal use of the joint, with the fatigue after exercise. We should not, therefore, immobilize, for nature does not make the attempt. We should meet the indication, fatigue after exercise, and apply an apparatus which gives absolute joint protection.* In other words, when the patient is sitting, there need be nothing but protection against accidental traumatism; but when the patient walks this protection must be absolute, and the means by which it is to be obtained should act promptly and without the exercise of volition on the part of the patient. These, in brief, are the indications for the mechanical treatment of chronic synovitis of the ankle-joint.

Bear in mind, for it is very important, that you should always arrange your mechanical aids in treatment of chronic joint disease so that it shall always act independently of the patient's will. Make your protecting instrument, practically, part of the ...ient and part of the affected joint and limb; adjust it so that ...ient can not move or step without making the support ... apply it so that whether sitting or standing, running ..., whether the danger comes from the patient's own in... from some accidental cause, the joint—the vulner-

... Treatment of Synovitis of the Knee-Joint." By C. Fayette Tay... ...rnal, July, 1873.

able point—is always protected. I have seen so many inefficient methods adopted for these cases, so many truly useless procedures, that I feel that I cannot speak too strongly upon this point. It is true that anything which gives partial support may produce temporary relief; but, when the patient feels this relief, he at once gives the affected joint more liberty, and being not fully, or, so to speak, not automatically protected, a speedy relapse ensues. Do not seem to do your work in orthopædic surgery, but always be sure that you accomplish all that is required when you use a support. Devise or prescribe the instrument yourself, and see that it is so constructed and applied that the principle involved is carried out. Of course, you must rely somewhat upon the discretion of the patient or his nurse; but you can, by study and effort, so construct and so apply your supports that their use may be reduced to the adherence to a few simple rules, and you can soon tell whether or not these rules are obeyed. If they are not, I would candidly advise you to dismiss the patient, and devote your time to some other and more profitable employment.

Mechanical aids are essential to the scientific treatment of chronic joint disease. They will prevent deformity in many cases, if they can do nothing more. In others, they will, where anchylosis is inevitable, permit you to elect the ultimate position of the joint. And you should always have at hand the facilities for adapting the instrument to the indications, and for making the instrument actually do the work required of it. You should master thoroughly the detail; you should always know more than the instrument maker, not necessarily about the manufacture of the apparatus, but about all other points. You should no more go to an instrument maker for advice than you would to a druggist for instruction. You should not send a patient to an instrument maker for treatment, any more than you would recommend a patient for treatment to a pharmacist. You should prescribe your instrument upon a rational basis, just as you would prescribe for an acute disease; and you should be able to tell the instrument maker, if the instrument is faulty, where the fault lies, or, better still, you should be able to correct the fault yourself. Upon this basis I know of no more satisfactory or pleasant work than orthopædic surgery. But, under any other condi-

tions, it is the most unsatisfactory kind of work. The profession must sooner or later appreciate this, and when they do, orthopædic surgery will be properly understood and appreciated, and that kind of talent will be attracted to it which will make its future brilliant. For there is more to be learned, I feel, in orthopædic surgery than in any other branch of surgery; and hence, there is more to be gained by those who diligently follow it, and intelligently study its problems.

To revert more particularly to chronic synovitis again, I said, and I again repeat it, do not immobilize the joint in chronic synovitis. If you do, the joint soon becomes stiff and useless, and the closely observing friends of the patient will inform you—and they will state a fact—that the joint is in a worse condition than before you applied the apparatus. Use of the joint in chronic synovial inflammation, therefore, is indicated. Motion, without pressure, is plainly demanded; in other words, we must avoid traumatic contact of the vulnerable surfaces. To accomplish this we must produce a certain amount of traction, but we must not prevent free movement.

There are no muscular contractions to overcome; there is no deformity of the joint to remove; there is no pain caused by interarticular pressure in chronic synovitis. The idea should be to produce just enough traction upon the joint to transfer the weight of the body to some other point, giving the joint full liberty when the pressure caused by the weight of the body is not present. Clinical expericnce teaches, in ankle-joint synovitis, that if we apply an apparatus that just prevents the foot from touching the floor when the patient walks, we place the joint in the best local condition for repair.

I may say here that I have been disappointed with all instruments that I have seen, that have been devised for the treatment of ankle-joint disease, whether synovial or osseous, that act upon the ankle-joint alone. In order to perfectly protect the ankle-joint we must limit more or less the movements of the knee-joint. If we wish to immobilize the ankle-joint in locomotion we must also control the knee. This fact we can, in some cases of synovial disease, ignore; but in the vast majority of cases we cannot ignore it; and hence, we must include the knee-joint in

our support. But where shall we obtain our counter support? If we are going to actually protect the ankle we must not depend on adhesive plaster and its attachment to the skin for our counter support. This is one of the fallacies that I have tried to combat. Adhesive plaster forms a very excellent and, indeed, the best means of applying direct traction to a distal part of the body, where we have a fixed point to pull against, as in hip disease, or knee disease, or even in ankle disease, if we apply our adhesive plaster to the parts beyond the ankle-joint. We cannot make a reliable fixed point with adhesive plaster. We must go to the perineum for our fixed point, to the tuber ischii, just as we do in hip disease; and we must make our support so that we can control the knee-joint if necessary, and actually support, protect, or apply traction to the ankle-joint as indicated. In chronic synovitis of the ankle-joint, and in chronic osteitis, also in some cases we can allow the patient to bend the knee when he sits down. As I will show you, there is a peculiar arrangement at the hip and knee in the apparatus I use, by which the patient can flex the knee-joint and the hip-joint as he sits down, and this mechanism locks automatically in the straight position when the patient stands erect or walks.

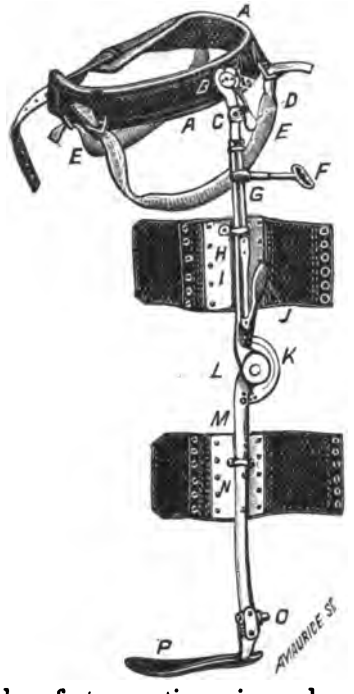
Here, gentlemen, is the instrument I use in ankle-joint disease; it looks formidable when removed from the patient, but when adjusted prop-

(2) The automatic hip-joint movement *C*, which admits of flexion when the patient sits down, and which locks without aid when he stands. (3) The thigh part *G*, in which we place the extension rod. To this thigh-piece we attach a plate *H*, for loose lateral attachment to the thigh. (4) The knee-joint, with its automatic "snap" *J*, which always locks when the patient stands up and commences to walk. (5) The calf part *N*, which, like the thigh-piece, has a band and leather lacing to afford lateral attachment. (6) The ankle-joint *O*, with a worm and screw, which enables us to place the foot-piece *P* in any desirable antero-posterior position (see Fig. 1).

This instrument is modified from one introduced by Dr. Taylor, for chronic synovitis of the knee-joint. Dr. Taylor's instrument is pictured in his article on "The Mechanical Treatment of Synovitis of the Knee-Joint," already referred to. To it I have added the extension rod *C*, and the pelvic band *B*, the automatic joint at the hip *C*, and the worm and screw, controlled by a key at the ankle *O*. The joints at the hip and knee permit the patient to sit in an easy position, and when the patient stands they each lock automatically, and form a continuous splint. Protection, with traction, if desired, is thus always secured when the patient sits, and traction is always present when the patient stands.

The instrument is well adapted, in a mechanical sense, to the treatment of either chronic synovitis or chronic osteitis of the ankle-joint. The modifications necessary to meet the indications in these two conditions are made at the ankle-joint. For chronic synovitis we find just how much motion the patient should have, and then, by a "catch" in the sidepiece of the foot-plate (this is not shown in the plates) we limit the flexion and extension of the foot. We then apply the instrument, and generally without any adhesive plaster whatever. The instrument fits the contour of the limb, and we adjust it so that the foot-plate comes closely in contact with the sole of the foot, before the shoe is applied, and with the pelvic band just below the anterior superior spine of the ilium. Then lace the calf piece first: then apply the shoe over the foot-piece. You will be surprised, if you make the instrument fit, how easily the ordinary shoe goes over this foot-piece.

Then lace the shoe quite snugly; then lace the thigh-piece; finally buckle the pelvic band, and secure the perineal pads. Now make gentle traction, with the key just enough to carry the foot-piece, enclosed by the shoe, slightly away from the sole of the foot. Place the patient on his feet. Almost the entire weight of the body falls on the tubera ischii when the affected ankle-joint is used in locomotion. The knee-joint is stiff, or not as you would wish, for, by removing a couple of screws, the automatic spring can be taken off. The ankle is protected against all ordinary traumatic influences, and the apparatus is almost as much a part of the patient as though he had been born with it. Whatever the patient does, the support is constantly acting, and no voluntary effort is needed to protect the inflamed joint surfaces. The risk of traumatism is reduced to a minimum, and you can now satisfactorily commence your systemic treatment. You can always control the amount of motion at the ankle-joint; and at night, if you wish to protect your patient against accidental traumatism, keep the instrument on and apply a bandage in place of the shoe, or adjust some simple form of ankle-joint splint. You ought to insist that the patient should never walk without the support; for if you permit any discretion in the matter, you might as well have no rules at all. If you say that the patient can walk without the support occasionally in the treatment of chronic [illegible] he will sooner or later make it his habit to reverse y[illegible] the support occasionally. In chronic osteit[illegible] little necessity



for this rule. The comfort afforded by the apparatus so far exceeds the discomfort occasioned by its use that the patient will much prefer to wear the support.

In using this instrument for chronic osteitis of the ankle, you not only have a different pathological state from that found in chronic synovitis, but you must also make the modification necessary to meet it. You have no malposition of the joint in chronic synovitis, and hence, you can use the apparatus with more or less antero-posterior movement at the ankle. But in chronic osteitis we find reflex muscular spasm, malposition, either antero-posterior or lateral, pain and much greater difficulty in locomotion. Still, exercise in the open air is indicated, and joint protection is much more urgently demanded. How shall we make this instrument meet the indications?

Let me say here for your future guidance, in the treatment of chronic articular osteitis, that you should always adapt your apparatus exactly to the deformity, whatever it may be, and you must, by gradual and very gentle changes, restore the joint to the normal position, or that position, whatever it may be, which you seek. For ankle-joint osteitis I have introduced an antero-posterior worm and screw (*O*, Figs. 1 and 2). We can then, by a key, turn the foot-plate into a position of equinus or calcaneus, and so adapt it to the deformity; for there is no lateral malposition of the ankle-joint itself, and we can bend the side-bar to meet the secondary tarsal malpositions. After we have adapted the foot-piece and the side-bar to the actual deformity, we go through the same process as that just now described—viz.: We lace the calf-piece first, then adjust the shoe, then lace the thigh-piece, and lastly, arrange the pelvic band and perineal pads. We can reënforce this laced shoe with adhesive plaster, if necessary, however, and then make very thorough traction, applying considerable force, and in this way producing that peculiar avoidance of injurious contact which is so grateful to sufferers from chronic osteitis of the joints.

Patients who could not walk before the support is applied will generally walk well after this apparatus is properly adjusted, without any further aid. They do not need crutches or cane. It is only necessary to make the sound limb artificially longer

with a high-soled shoe, and advise care in locomotion at first. You do not have to urge these patients to walk; they soon become very active—as active, indeed, as children without joint disease.

Gradually you will change the position of the foot-plate, and the foot will follow it. In a few days you will see the ankle-joint in a good position, and the progress toward recovery fairly commenced. The instrument, as adjusted, but without the shoe or traction, is shown in Fig. 2.

Before giving you some practical demonstrations, I will briefly refer to some other matters: First, regarding abscesses: their presence does not interfere with the use of this support. Bad cases, with œdematous infiltration, sometimes improve very rapidly under its use, and you can very easily arrange the support so that it will not produce any discomfort. Second. If pain be very severe it is advisable to apply adhesive plaster, and to keep the patient in bed, where the proper local treatment can be carried out. Third. Give a few positive rules for the guidance of your patient, and insist upon their being obeyed.

The question of operative interference, excision, etc., is applicable to other joints as well as to the ankle, and I will consider these and other matters upon some subsequent occasion. I may say, however, that I have seen very few cases of ankle-joint disease where I deemed excision or amputation justifiable in a child. —*Annals of Anatomy and Surgery, May*, 1882.

PEMPHIGUS. By LEON SANDBERG, of Russia. Translated from the German by F. H. GEUTSCH, M.D., Chicago.

Pemphigus belongs, undoubtedly, to that class of skin diseases about whose nature we are thus far but little instructed. It manifests itself, on the one hand, in a great variety of forms and manifold complications, and on the other, by its rarity of occurence.

Whether this disease was known to the ancients or not, we find mentioned in the works of Hypocrates a febrile disease, under the name of febris pemphigoides, in the course of which pustules

were developed in the bucal cavity. There prevailed in all the ancient works, until the end of the last century, so much confusion upon this obscure disease, that we can accept them as of but little value. For the first lucid description of this disease we have to thank Lepois and Willan. The credit for its new classification belongs to Wichmann. Instead of the five classes of Savage, viz.: Pemphigus major, Castrensis, Helveticus, Indicus and Brasiliensis, he classified them as simply acute and chronic.

According to the French dermatologists, we have the classification, Pompholix congenital, solitaire, confluent, simultaneous, successive, acute chronic, pyretique, apyretique and herpes phlyctenoide. Hardy, in opposition, gives two principal forms, acute and chronic, but gives their different manners of invasion. Cazenaave sets up a new form, which differs from the ordinary chronic pemphigus in this, that separate pustules follow rapidly one upon the other, and with equal rapidity burst. In this form the pustules spread rapidly from the first point of invasion over the whole body. The pustules are small and not well filled, so that the coverings lie in folds. The red color of the contents of the pustule comes from the infected cuticle at its base. After the falling of the scab, a moist spot remains, which has no tendency to heal. These spots give off a fatty smell, and are very painful. This form received from Cazenaave the name of pemphigus foliaceus.

Whilst most dermatologists regard acute pemphigus as a distinct disease, Hebra teaches that every true pemphigus runs a chronic course. This question can only be settled by careful observation at the bedside. From the best information we can gather in regard to the so-called acute pemphigus, we see that it is not peculiar to children alone, but is found also, though rarely, in adults.

The statement of Bärensprung, that in the acute pemphigus, pustules form also upon the mucous membranes similar to those upon the skin, seems to be borne out by the facts in most cases, as in the case described by Coston, to which we will refer again later, in which this eruption was very well pronounced. This case can be cited as an instance of the occurrence of acute pemphigus, as the eruption was preceded by a distinct prodromic

stage of two days' duration, in the same manner as in the acute exanthemata. Later, Herand observed three cases which ran an acute course, attended with high fever. Ulmer kept one of his cases, after it had run its acute course, under his eye for a considerable length of time, to see whether there would be any further manifestations of the disease, but failed to note any.

It is otherwise in regard to the contagious character of pemphigus.

The well-marked epidemics of pemphigus which have at times presented themselves stand in contradictory relation with the barren results of inoculation with the contents of the pemphigus pustule, so that we can hesitate to accept them alone as sufficient evidence of the contagious nature of the disease, as it is by many regarded. Also, in the case of Scharlan, in which the contents of the pustule should have shown contagious properties; viz.: that a number of persons who had been handling newly born children afflicted with the disease, also subsequently acquired an eruption, can still not be regarded as proof of its contagious nature. Notwithstanding the convincing evidence of the results of his inoculation by the pustulous matter, it still leaves a doubt whether it was not syphilis he was dealing with. Even though we know the course and various complications of this disease, we are still in the dark as to its etiology, and the light which a knowledge of the part taken by the internal organs might throw upon it.

Thus is the nature of this dangerous disease still obscure, in spite of the energy and labors of our most eminent dermatologists. In order to invite investigation into the nature of pemphigus, I send an account of a case of pemphigus foliaceus whose course seems particularly important.

A patient forty-two years old, badly nourished, suffered in his childhood from a scrofulous enlargement of the cervical glands, which at one time formed an abscess and required the use of the knife. In later years he suffered frequently from inflammation of the throat. The patient belonged to a sickly family, but in which there had never been any skin disease. His father died of lung disease, and his mother of apoplexy. Out of seven brothers and sisters six died; one brother living and well. The patient

was obliged to give up his trade, that of a shoemaker, because he could not endure the sedentary life, and has been for six years employed in a bone mill. No appearance of venereal disease. Excused from military duty as unfit. Was twice married, and had with the first wife six children, four of whom died in childhood; two are living and well. From the second marriage there are two children, both living and well.

In July, 1877, there appeared upon his limbs, without previous warning, a pustulous eruption, which in twenty-four hours spread over his entire body, when the pustules enlarged and became confluent; afterward ruptured, leaving moist and painful spots. At the time of his admission to the Julius hospital, October 1, 1877, his whole body was covered with the characteristic jagged shreds of skin of pemphigus. Over the whole surface of the skin were scattered flabby and sunken pustules, varying in size from a pea to a bean, filled with a milky fluid. On various parts of the body, particularly on the face and back, were crusts of eczema, under which lay the corium. Pustules also appeared in the external ear. The conjunctiva and mucous membrane were free from pustules, but lachrymation was profuse. Nothing abnormal found about the thoracic viscera or liver, or spleen. The assimilative powers were bad, with loss of appetite and diarrhœa. Under treatment with permanent baths of caustic potash, and arsenic internally, the patient improved. His weight increased from 50 to 64 kilograms. April 7, 1878, he was discharged convalescent.

During his stay in the hospital no albumen was found in the urine, but large quantities of phosphates.

Soon after leaving the hospital the pemphigus returned, with the same rapidity and intensity, covering the whole body, so that on June 27 he returned to the hospital. He was subjected to the permanent baths, and during the night Hebra's salve applied, and later penciled with pyrogallic acid. Internal administration of arsenic, morphia and hydrate of chloral to relieve pain. After an improvement in his general health, and of the skin disease, the patient again left the hospital, February 25, 1879.

Five weeks later the disease made its appearance once more, the patient being then engaged in the very arduous labor of

breaking stone. At this third appearance in the hospital the disease presented the same phase as in the first instance. The palpebral conjunctiva much inflamed, with epiphora; the outer ear excoriated and covered with pustules. Upon the forehead appeared circumscribed red spots denuded of epidermis; on the periphery of the spots were shreds of skin, as upon other parts of the body. The only remedy which proved efficacious in relieving the external symptoms was the permanent bath, twenty-four hours after using which flabby pustules appeared between those npon the epidermis. The nutrition sank considerably meanwhile. Diarrhœa alternated with constipation. The therapeutics same as for previous periods, with the exception that the pyrogallic acid seemed this time to have little effect. No fever. Heavy precipitate in the urine, but no albumen.

August 3, 1880. Patient felt somewhat better. Breast and back sparsely covered with pustules; the pustules already dried and burst, and the epidermis hanging in jagged shreds from the excoriated parts. The patient was kept all day in permanent bath, and at six P. M. was placed in bed, after the excoriated parts had been covered with oiled cloths. Appetite and sleep normal, but patient complains of continuous itching in the extremities.

August 17. An addition of corrosive sublimate to the bath had to be given up after two days, on account of the appearance of salivation. The urine, which was examined every six days, was found free of albumen, rich in urates, and of brownish yellow color.

In the latter part of October the appetite failed, and vomiting began.

November 3, the patient experienced several chills, and pneumonia of the left lung.

November 7. Another severe chill. The temperature varied between 39 and 40.3 C. until the third stage of the pneumonia, November 20.

November 16, a new outbreak of pustules was noticed. On the lower part of the breast and the entire surface of the abdomen the epidermis detached itself in patches as large as the hand, formed by the confluence of mucous pustules, and thus exposing

the corium, which, together with the remaining contents of the pustules, formed yellow, bad smelling scabs. The same condition of the back rendered the recumbent position very painful.

November 20. With the decline of the fever, the skin of the breast and back began to assume its normal appearance. No more pustules appeared on the back, but upon the ocular conjunctiva of the left eye pustules as large as a pea developed themselves, which, on opening or closing the eye, acted like a foreign body. Patient was once more placed in the permanent bath. His appetite improved, and weight increased from 42.5 to 61 kilograms.

About the end of January, 1881, a new eruption made its appearance, attended by fever; the temperature at times rising as high as 39.7 C.

At this time the patient presented a typical case of pemphigus foliaceus. Upon the whole body were numerous pustules, some filled with pus and others with serum, and covered with scales of epidermis. Upon the nates were cracks and chaps which were easily caused to bleed, and which made the dorsal decubitus very painful. In contrast with the rest of the body, the palms of the hands and the soles of the feet presented a normal appearance, and remained free from eruption during the whole course of the disease. In March the patient began to complain of pains in the mouth and of loss of appetite, and rapidly lost flesh. On inspection of the bucal cavity, we found the tongue red and denuded of the epithelial coat, and a crucial-shaped coating on its surface, and the margins also coated. Upon the point of the tongue were three pustules, the size of a pea, and filled with a transparent liquid, each of which pustules was surrounded by a number of minute ones of the same character. The gums and jaws were normal in appearance. The skin began to wear a better appearance. The breast and upper extremities were almost free of eruption. The back and lower extremities also showed no pustules, but scales of epidermis similar to those resulting from ruptured blisters, and which were arranged in circular form upon the body. Upon the hairy scalp and upon both ears were attached with dried pus the same sort of scales, forming with the hair a

white crust, and giving the appearance of flour having been strown over the scabs or crusts.

In April the treatment by permanent baths had to be discontinued, on account of the aversion of the patient to them. After two months, in consequence of lying with dressed limbs, a slight contraction of the knee joints appeared. Forcible extension was not applied, on account of the severe pain produced, but passive motion was freely employed.

In October the condition of the patient was worse. Severe pains in the head, and tearing and drawing pains in the right hip joint. The inguinal glands became swollen, but not tender on pressure. Over the lower portion of the abdomen, as well as upon the right thigh, many new pustules appeared. Those upon the thigh soon became confluent. The epidermis became detached from the entire surface of the thigh and the upper third of the leg. The contents of the pustules, at first serous, assumed the character of pus. After the appearance of the pains in the hip, the temperature rose, the breathing became difficult, and, owing to the debility of the patient, expectoration impossible. In the beginning of November there appeared, attended with severe burning pains, new pustules upon the left lower extremity, which ran the same course as those upon the right thigh. The knees on both sides were contracted at right angles. Shortly before death, the patient began to complain of pains in the left breast. Percussion showed a region of dullness of two fingers breadth in the posterior lower portion of the left lung. Auscultation revealed pleuritic friction sounds. The heart impulse grew weaker, and on November 10 death ensued from paralysis of the heart.

Post-mortem examination one day after death revealed the following, viz.: Muscles dark and dry. Adipose membrane much reduced. In the left heart, clots of dark blood in large quantities; same in the right; no ante-mortem clots; valves normal. Brown coloration of the muscles of the heart, and reduced in quantity; left endocardium of light color. Anterior part of right lung normal, but posterior part of upper half of same partially solidified; patches of ecchymosis upon the pleura. Hyperæmia of the trachæa and larger bronchial tubes. There was less infiltration of the left lung than of the right one. Considerable

deposits of fibrin upon the pleura; in the upper lobe a deposit of tubercles. Bronchial mucous membrane on this side less hyperæmic than upon the other. Stomach distended, and upon the lesser curvature a simple ulcer, with a swollen base, seemed to be in process of healing; upon the opposite side were cicatrices of old ulcers. The subserous coat of the small intestines much injected; the mesentery light-colored and swollen, with thickening of the mesocolon. The mesenteric glands between colon and ilium were enlarged to the size of a pigeon's egg, and cheesy. Slight erosion of the lower part of the large intestine; over the valvula Bauhini ulcerative changes. Spleen large and white, and few malpigian bodies; liver enlarged, with fatty infiltration of its borders. Right kidney normal in size; left one enlarged with light-colored cortical substance.

Microscopical examination of the brain, spinal cord and sympathetic revealed nothing abnormal.

To recapitulate: We have here to deal with a delicate man of forty-two years, who was scrofulous in his childhood, and who lived under bad influences. His sickness began in July, 1877, and caused his death four years afterward.

With the most patients, we find with this disease a tendency to exhaustion and general disturbance of the digestive apparatus. The intensity and extent of the skin affections are variable, and at times the patients experience intervals of almost entire freedom from them. While in most cases the eruption is not attended with fever, yet in some cases it is preceded by high fever.

Ten days before death, this patient had marked enlargement of the inguinal glands, attended with severe pain in the right hip joint, and also high fever of a remittent type, which until death remained as high as 39 to 40.3 C., the remissions amounting, some days, to 3° C. In this case, every sign of kidney disease, which in the etiology of pemphigus with the older authors played so important a *rôle*, was wanting; also those signs of nervous disturbance to which, in the last decade, the origin of pemphigus has so often been attributed, were wanting. Still, we find in this case some moments, even though they appear to be merely coincident or accidental, which we may perhaps point to as the origin of the disease. There is no doubt that the constitution

of the individual, in this disease, as in many others, has much to do with the origin of the disease. Most victims of this disease are broken-down, debilitated individuals, who live under bad influences, and who are frequently exposed to wet and cold.—*Münchener Medicinisehe Wochenschrift.*

To make a differential diagnosis between the inter-costal neuralgias and pleural or pulmonary disease, observe two facts: The neuralgias are associated not only with pain, but also with tenderness on pressure; the pulmonary processes by pain alone. The second fact is that neuralgias are unattended by fever; the reverse prevails in the opposite conditions.—*E. T. Bruen, in Pocket-Book of Phys. Diagnosis.*

Items.

THE TONGA TRADE MARK LITIGATION.

The suit of the English firm of Allen & Hanburys *v.* Parke Davis & Co., of Detroit, has abruptly terminated by the plaintiffs, on their own motion, obtaining an order of court to dismiss the bill of complaint and assuming the costs of suit themselves.

This affair has ended all too soon for the plucky Detroit firm, who hoped to place a decision on record in the United States court as to whether a firm has the right to appropriate and monopolize by trade mark the common name of an article, and thus exclude others from its manufacture, effectually destroying competition.

The compound known as Tonga having been introduced to the profession by such distinguished authority as Drs. Murrell, Ringer and others, Parke Davis & Co. cast about for a supply of the article for manufacture. Its habitat being in the Fiji Islands, some seven thousand miles southwest of San Francisco, a special agent sent by them secured in six months a large supply of the drug. In accordance with their custom, they published to the trade and medical profession what information they have been able to secure, and supplied to hospitals and many practitioners sample quantities for trial.

As a result of this enterprise, a demand sprang up for the drug, which attracted the notice of the English firm.

Supposing a simple warning sufficient to induce the American firm to relinquish the fruit of its labor and enterprise, they politely informed them that the name "Tonga" and the combination of drugs known by that name were the special property of Allen &

Hanburys under a registered trade mark, and that all trade in the article except through them should now cease.

Parke Davis & Co. refused to entertain any such demand, and the English firm, after failure to obtain letters patent in the United States, brought suit against them in the United States court for infringement of trade mark with the above result.

MORTALITY in the chief cities of the United States for the year 1881: Compiled from National Board of Health Bulletin.

	Population.	Mortality per 1,000.
Portland, Me	33,810	18.5
Concord, N. H.	13,838	17.9
Burlington, Vt	11,364	18.1
Boston, Mass	362,535	24.1
Lowell, Mass	59,485	21.6
Worcester, Mass	58,295	19.3
Providence, R. I.	104,857	20.2
New Haven, Conn	62,882	20.4
New York, N. Y.	1,206,577	31.9
Brooklyn, N. Y.	566,689	25.2
Buffalo, N. Y.	155,137	25.6
Newark, N. J	136,400	25.5
Philadelphia, Pa	846,980	28.6
Pittsburgh, Pa	156,381	28.6
Wilmington, Del	42,499	31.0
Dist. Columbia	180,000	24.8
Richmond, Va	63,803	32.1
Wheeling, W. Va	31,266	22.7
Augusta Ga	23,023	31.6
Atlanta, Ga	37,421	25.7
Key West, Fla	9,890	24.7
Mobile, Ala	31,205	31.0
Vicksburg, Miss	11,814	30.8
New Orleans, La	216,140	29.6
Galveston, Tex	22,253	30.9
Nashville, Tenn	43,461	26.4
Louisville, Ky	123,645	22.2
Cincinnati, Ohio	255,708	24.3
Cleveland, Ohio	160,140	23.5
Indianapolis, Ind	75,074	21.1
Chicago, Ill	503,304	27.2
Milwaukee, Wis	115,578	23.2
St. Paul, Minn	41,498	23.4
E. Saginaw, Mich	19,016	15.0
Dubuque, Iowa	22,254	12.5
St. Louis, Mo	350,000	23.9
Omaha, Neb	30,508	17.1
Salt Lake City, Utah	20,768	27.9
San Francisco, Cal	233,956	17.6
Average	24.7	

Mean death-rate from the following diseases per 1,000:

Accidents	0.80
Consumption	3.23
Croup	0.50
Diarrhœal diseases	2.49
Diphtheria	1.01
Typhoid fever	0.65
Scarlet fever	0.67
Pneumonia	1.52
Bronchitis, acute	0.57
Small-pox	0.45

Chicago.—The registrar reports a total of 1,178 deaths during the month of January, of which there were 24 from croup; 46 from diphtheria; 13 from cerebro-spinal fever; 30 from scarlet fever; 62 from typhoid fever; 133 from small-pox; 120 from phthisis; 210 from acute lung diseases, etc.

RICORDIANA.—The French doctor is fond of flavoring his professional work and reading with literary digressions and witty sayings. A surgeon or physician to be really great in Paris must utter an occasional epigram. There are amusing anecdotes told of every prominent Parisian medical man. There exists a collection of these "morceaux choisis." To judge from the collection, Ricord is the greatest man in Paris. The book is full of stories about him. Here are some "Ricordiana:"

"Ricord is a savant whose researches have rectified an important point in mythology. He has demonstrated that it was not Vulcan, but Mercury whom Venus should marry."

"Some one asked Ricord if small-pox and the other were of the same family. 'They are sisters,' said he, 'but not of the same bed.'"

"'The condom,' says Ricord, 'is a cuirass against pleasure and a cob-web against danger.'"

"At the Convent of St. Jean de Latran there is preserved a famous relic in the shape of a serrated ring used by a mediæval saint for the discipline of the rebellious flesh. Ricord was one day asked by a young lady, an *ingenue de salon*, what was the character of this relic, made doubly famous by the witticisms of Voltaire. Ricord was somewhat embarrassed at first. 'Ah, yes;' replied he, 'it is a crown of thorns.'"

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p.m., Gynæcological, Prof. Dudley.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

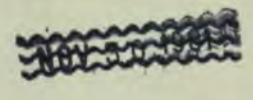
Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics, by Profs. J. H. Hollister and R. N. Isham.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—2 p. m., Gynæcological, by Prof. Stevenson.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

THE UNIVERSITY OF MICHIGAN

ARGUS STORAGE

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